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PROGRAMMING FOR GIFTED SECONDARY STUDENTS:
OPINIONS OF EDUCATIONAL PERSONNEL

by

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The purpose of this study was to identify curriculum and programming needs for gifted secondary students in public schools on the state levels, to identify the skills and competencies for appropriate instruction required by gifted secondary students and their teachers, and to determine how these administrative programming needs and competencies were perceived or studied by administrators and teachers as their roles as effective delivery agents of these programs in the state of Florida. The study was conducted in two phases. The subjects in Phase I were 26 national experts in the field of education of the gifted. They were sent a three round Delphi survey in which they were asked to list, rate, and measure curriculum and programming needs for gifted secondary students on the state levels and to list skills and competencies needed by students and teachers in these programs. The subjects in Phase II were 26 district-level administrators and 26 teachers of gifted secondary students throughout the state of Florida who operated within

these levels of administrative responsibility in gifted student education. Each administrator and each teacher, randomly selected, completed a rating of the semi-structured questionnaires generated by the 30 experts in Phase I. Content item subject responses as completed by the administrators were compared with content item responses as completed by the teachers to determine to what extent future programs, skills, and competencies were perceived as critical.

The results of the Phase I tripi survey produced a list of 42 suggestions for future gifted secondary student curriculum and programs, 42 suggestions for required student skills and competencies, and 39 suggestions for required teacher skills and competencies. The total 148 item responses were grouped into 11 subjects with expert responses within each subject. Phase II presented a comparison of the 42 administrator-teacher mean rating scores for content item subjects of the questionnaires generated by the experts in Phase I. Differences between the mean rating scores produced by administrators and teachers operating within these levels of diffusion for each content item subject were analyzed by a series of two-way ANOVAs. The statistical analysis indicated no significant differences between administrators' and teachers' perceptions of future gifted secondary student programs, skills, and competencies across all three administrative groupings.

On the basis of this research, experts achieved consensus on the importance of future programming for gifted secondary students and the skills needed by students and teachers within these programs. Moreover, the administrator-teacher respondents who participated in the comparative phase indicated collective support for the 11 subjects of content items generated by the experts.

CHAPTER I INTRODUCTION

The purpose of instructional programming for gifted students in secondary schools is to provide these exceptional students the opportunity to participate in educational experiences commensurate with their abilities and interests. However, the confidence that educators and laymen once placed in the efficacy of American high school programming has been, in the last decade, brought with doubt. National commissions and study groups have learned that secondary schools in the United States have shown steady declines in excellence (Dwyer, 1981; Gardner, 1983; Goben, 1982). Gifted programs and their effectiveness in schools have been scrutinized in their efforts to produce excellence (Bellamy, 1980; Conople, 1980). According to Gutman (1981), gifted programs are subject to insensitive handicaps, discrimination, "They are implemented but not encouraged, directed but not professed, tolerated but not accepted" (p. 146). Gutman stressed the need for appropriate gifted program development.

Unfortunately, planners and administrators of gifted programs too often have not specified adequately the outcomes expected from the programs, nor have they demonstrated effectively the student growth that have resulted. Education for the gifted has tended to function as target practice in the dark . . . time, energy, and money have been wasted. Furthermore, public acceptance of gifted programs remains an elusive prize. (p. 146)

The degree to which gifted programs are successful in enhancing general intellectual ability, specific academic aptitude, and creative and productive thinking is not clear. Historically, manufacturing an impression of excellence through hastily implemented recommendations has tended to produce surface learning and short-lived, untransferable improvement (Rubin, 1984). Finding potential giftedness and attempting to produce from it educational products of excellence have instead broadened the category of giftedness and gifted programming and have posed threats which are both sociological and political (Tetherough & Johnson, 1985). Instead of inspiring confidence in his secondary gifted programming, the field of gifted education instead "is plagued with problems in clarification of terms and concepts" (Johnson, 1981, p. 144). There is, moreover, a theory-practice gap in identifying the gifted which still exists in relation to the identity of the gifted student. Tetherough and Johnson (1982) revealed the need for educators to close this gap or opportunities for the gifted in the 1980s would not be expanded. "If professional educators have not, among themselves, developed a clear-cut operational definition of giftedness that can be used in applied in schools, then there is little wonder that programs for the gifted have not advanced in numbers" (p. 133).

Gifted education in the 1980s reflects programming problems which need to be addressed for future development of the field. Renewed interest in gifted education, because of the U.S. Commissioner of Education report to Congress on education of the gifted and

collected (Merriam, 1977) and the report A Nation at Risk: The Imperative for Educational Reform (Gardner, 1981), show education to be a contemporary educational concern. This concern, stemming from the pressures for reform educators are facing through public pressures, is part of an educational policy crisis without precedent (Oakes, 1988). The aftermath of reports such as A Nation at Risk, The Imperative for Educational Reform finds the schools in a position of evaluation and concern over future direction. As Rubin (1988) noted,

confusion reigns over what policies are essential and over the best means of their accomplishment. The unfolding drama is extraordinary because of several variable circumstances. The media [have] mounted a blistering attack on educational leadership, political candidates at all levels have made schooling a major issue . . . and policy-making itself, once reserved to by consensus, has become a free-for-all. (p. 7)

Educational programs, in turn, must make changes and the changes leading to real improvement are those based on local circumstances (Rubin, 1988).

Efficient, Effective Special Education

The goal of the special education is to improve the quality of education for students who differ either intellectually, behaviorally, or physically so that these students can attain their maximum potential. This requires modification of existing educational programs. However, according to Thomas (1981), there are "substantial data to suggest that the most underserved population, that is, the individuals least likely to receive an educational program designed to facilitate maximum growth, may be those who are gifted and talented" (p. 181).

It is estimated that from 85% to 95% of America's potentially gifted and talented students are not being identified or provided the specialized instruction they need to realize their maximum potential (Thomson, 1981). Appropriate programs and services for the gifted, intended to address the individual and specific variety of talents and abilities of gifted students, are of concern to professionals in special education. Cohen (1981) noted that the individuals who conduct evaluations of exceptional student programs are concerned not with administrative issues dealing with program efficiency but with compliance issues stemming from federal, state, and local mandates. This lack of evaluation data for exceptional education programs for achievement has made it difficult for special educators to make appropriate educational decisions. Implementing educational program into practice has been through trial and error effort with the grafting of elementary education models to secondary school structures. In 1976, Lanninger noted that various doubts had surfaced about the ability of public school administrators to deliver on their educational promises to students. More recently, Ross and Freeman (1985) reported the need for systematic evaluation within an educational context before school improvement programs can be initiated. According to Ross and Freeman, evaluations are undertaken to assess existing programs both to judge their worth and to determine possibilities for improvement.

The focus of research is on the extent and severity of problems requiring special intervention, and on the designing of programs to mitigate them. In the

contact of ongoing and innovative programs, there is concern that programs are reaching their intended target populations and are providing the numerous, innovative, and innovative activities. (p. 14)

Waher and Bennett (1984) discussed and noted, "the effective delivery of these programs is very much dependent on the extent to which they are carefully planned, carried out, and modified to respond to changing conditions and needs" (p. 1).

The education of secondary students has become an issue of national concern. Since 1970, educational institutions, government agencies, and researchers have each various levels, through published reports, on the ability of secondary schools to meet the needs of the adolescent (Darrigle Commission on Higher Education, 1970, Council, 1974; National Committee on Secondary Education, 1970, National Commission on the Future of Secondary Education, 1970, Report of the Panel on Youth of the President's Science Advisory Committee, 1970, Task Force on Secondary Schools in a Changing Society, 1970, Trump & Miller, 1970, U.S. Department of Health, Education and Welfare, 1970, Weinstein, 1971).

Such progress has been made in the last 40 years in the provision of appropriate programs for gifted and talented students in the United States. According to a 1980 Council for Exceptional Children survey, 20 states identified gifted students by statute or legislation, with the remaining 11 states introducing bills which pertained to the gifted and talented (Phonix, 1981). Between 1970 and 1980, a 100% increase was reported in the numbers of gifted and talented

students, with an increase of 11% in gifted programs in the last five years (Thomson, 1991). Despite these advances in the number of gifted students served, only a few states accounted for nearly all the increase. Representation in gifted programs of lower socioeconomic and minority students (including the handicapped gifted population) is still low and many legislators and school administrators continue to take the position that the gifted and talented should be able to achieve maximum potential alone, with no special educational interventions (Thomson, 1991).

There is a lack of research in the area of effective and appropriate secondary education programming for gifted students. Meeting the programming needs of these students demands that educators "reexamine the conceptual framework of education" (Thomson, 1991, p. 181). This reexamination should produce a curriculum curriculum for gifted adolescents, a curriculum with appropriate student requirements to meet his challenge, and a curriculum with appropriate teaching competencies and strategies aimed at helping these students meet their educational criteria. The time to meet the challenges provided by gifted and talented students is imminent as their special abilities may develop diverse conceptual/subjectual models. "Perhaps never in the history of our country and of our world has the identification, nurturing, and education of those who are gifted and talented been more crucial to society" (Thomson, 1991, p. 182).

Problem Statement

This study was conducted to investigate curriculum and programming needs for gifted secondary students (grades 6-12) in public schools over the next decade, to identify skills and competencies for appropriate instruction required by gifted secondary students and their teachers in secondary schools, and to determine to what extent these program needs and competencies were perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida. In order to identify specific curriculum and program needs, a Delphi technique involving a panel of 10 national experts in the field of gifted student education was used to address the following questions:

1. What specific curriculum and programs should be developed and implemented during the next decade to provide appropriate and effective educational opportunities for gifted secondary students?

2. What skills and competencies will gifted students need in order to meet the requirements of these programs?

3. What skills and competencies will the teachers of gifted students need in order to provide appropriate and effective instruction for gifted students?

In order to determine how these future program needs were perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida, opinions of 40 subjects from throughout the state of Florida were solicited to allow the researcher to address the following questions:

1. To what extent, if any, do differences exist between administrators' and teachers' perceptions of specific curriculum and programs which should be developed and implemented during the next decade to provide appropriate and effective educational opportunities for gifted secondary students?

2. To what extent, if any, do differences exist between administrators' and teachers' perceptions of skills and competencies needed by gifted secondary students in order to meet the requirements of these curricula and programs?

3. To what extent, if any, do differences exist between administrators' and teachers' perceptions of skills and competencies the teachers of gifted secondary students will need in order to provide appropriate and effective instruction for these students?

Justification and Rationale for the Study

Concern for the proper education of the gifted student has been claimed to be a contemporary issue—a product of the 20th century (Bentley, George, & Helms, 1977). This concern has grown out of an awareness that giftedness is more than just a characteristic to be equated with high IQ. According to Lohs (1981),

not since the Sputnik era have the gifted received the attention they are receiving today. Research now suggests that, contrary to public opinion, the gifted child may not be able to succeed alone or in spite of the schools. Therefore, educators are designing new programs to enhance not only academic aptitude, but also creativity, artistic talent, and leadership ability. And . . . special efforts are being made to identify and educate the gifted students to be found among handicapped, disadvantaged, and culturally different groups. (p. vi)

The biggest boost for this movement in gifted education probably came from Section 806, *Provisions Related to Gifted and Talented Children*, added by a 1976 congressional mandate to the Elementary and Secondary Educational Amendment of 1966 (Public Law 94-142) (Morgan, Tennant, & Gold, 1980). As a result of this congressional directive, the report from the U.S. Commissioner of Education Sidney P. Marland (1980) indicated that progress for the gifted was deteriorated and in need of concentrated effort toward improvement. Marland estimated that, of the nation's possible two and one-half million gifted students, fewer than 4% were provided adequate program services, and that in only 16 states (Morgan et al., 1980).

Accordingly, this resurgence in the education of the gifted and talented has forced education to continue to reexamine the purposes and effectiveness of programming for these students. That reexamination indicated that the gifted and their special needs have been dealt with reluctantly. Morgan et al. (1980) expressed this state of the art as follows:

Though there has been a tremendous proliferation of special programs for children with almost every conceivable type of learning problem, we are still reluctant, apparently, to deal progressively with the special needs of the gifted. (p. 1)

Gallagher (1976) amplified this point with the following statement:

We Americans are justly proud of our egalitarianism, of our demand for equal education for all, but we are equally proud of our goal of individualism in the program to the child's mind. We have moved far toward providing access to education for all, but we are less effective in meeting the differing needs and abilities of individual

children. For these children at the extremes--the handicapped and the gifted--the commitment to individualization has been halting and incomplete. (p. 8)

The dilemma in the provision of appropriate educational programming for gifted students may be the result of teachers' inability to determine exactly what they can and should provide for students who are identified as gifted. Many more gifted programs are in the tentative stages. Berliner (1981) acknowledged that they suffer "growing pains" of maturation (p. 161). The growth of gifted educational programming must overcome administrative and philosophical game-playing or gifted programming may not be secured its rightful place as an integral part of the public school system. Of these administrative pains, Berliner (1981) stated,

this developmental failure has helped give rise to "pretending," for now you can show, now you can't. Schools recognize that gifted education personnel spend precious time and energy performing "patronage exercises" with principals and administrators who are reluctant to implement programs. Some districts postpone action with unnecessary "bureaucratic" delays because certain magic words are not evident in the program. "Drop-the-bomb" plays sample and one program or school to be started around the circle for accountability while others in the game watch and hope they are not chosen for the next turn. An unfortunate comparison to the game of "hide-and-seek" could be to note how they are not "it" while agents for accountability search the obvious areas for threats of evidence pointed to gifted student growth.

Because of program discontinuity, "gifted children with their varied talents are in every school in our country" (Nepes et al., 1980, p. 1). Continuity available to these students provides them, at best, with little more than a taste for challenge. Nepes et al., 1980,

"educators and legislators alike were willing to admit the need for recognition of the gifted through special funding and programs, but as yet the gifted do not have equal access to appropriate educational opportunities" (p. 15).

The discussion involving an apparent lack of special programs for the gifted in the public schools also has as part of its making a legal component. Marston (1976) addressed this issue through the following question: "Does this lack of programming, designed for gifted students as a means for them to fully develop their potential talents and abilities, constitute a denial of constitutional due process and equal protection? Marston's study dealt with rights of freedom of expression in educational treatment. According to the U.S. Office of Education, gifted students in public schools experience educational deprivation and, as a result, are subject both psychologically and functionally to conditions equal to or greater than the deprivation suffered by any other exceptional students who denied special education services (Marston, 1976). This deprivation could be a contention that gifted children's political freedoms afforded by the First Amendment are being violated by the public school system (Morgan, Tysman, & Gold, 1982).

It is apparent that it is time for gifted programming to reach a point of maturation and, to achieve that level, "comprehensive program guidelines and evaluations are revised often" (Reimer, 1982, p. 188). As part of that evaluation/revision process, determine the viability of laws and statutes, policy implications,

and the role of teacher educators needing attention. Morgan et al. (1988) stated, however, that to revise gifted curriculum and programming, educators need to be fully aware of the crucial differences between gifted "programs" and gifted "provisions." According to Morgan et al. (1988),

"provisions" are fragmentary, unarticulated, and temporary initiatives for the gifted, which are neither followed up in any meaningful way nor preceded by any meaningful activity, but are founded instead upon the cultural interests of the particular teacher who happens to be working with a particular class at a particular time. These provisions disappear with a shift of personnel. (p. 1)

In contrast, Morgan et al. (1988) continued, a "program is a part of the mainstream of education and does not rise and fall with public opinion" (p. 1). Quite apparently, the attainment of program status is the goal of educators seeking to improve educational provision for the gifted and talented. A valid program should have three components: (a) a suitable curriculum for gifted students, (b) a curriculum with appropriate student requirements to meet its challenge, and (c) a curriculum with appropriate teaching competencies and strategies aimed at helping these gifted students meet the program's educational criteria.

As stated, there is a lack of research in the area of effective and appropriate programming for gifted students. The Personnel Competencies Research Project (1988), for example, was designed to examine teacher competencies and activities for the following special education conceptualizations: learning disabled, educationally

handicapped, emotionally handicapped, hearing impairments/deaf, learning mentally handicapped, visually impaired, and other handicapped. Gifted education programs were not addressed. Gifted students and their programming needs are not included in Florida's Manual for Coding Teacher Performance on the Executive Classification Examinations, Florida Performance Assessment System (1984).

In the 1940s there was an increase, in the United States, of educational efforts on behalf of minority, low-achieving students. The impetus of this movement stemmed from an effort to provide an education to all individuals on a more equal basis. Unfortunately, this movement was accompanied by a corresponding decrease in interest in the education of the gifted. Between 1942 and 1954, 19 published articles on the gifted student were written (Morgan et al., 1988). When the Hartman (1972) report indicated a deteriorated state of programs for the gifted a revival of interest ensued. Since the early 1970s, educators have become aware of the need to develop gifted student programs which will be permanent, developmental features of public education (Morgan et al., 1988). The future, then, is of the essence in a discussion of educational programming for the gifted. Without proper images of the future, the cognitive and affective skills for survival cannot be defined (Taffner, 1978). Describing future educational images is necessary and made possible through efforts such as the Delphi technique (Rae, 1972).

The Delphi technique was pioneered in the 1940s and developed in the 1950s by Helmer and has applications at The Rand Corporation to

efficiently obtain data through group opinion about national military defense problems (Jenkins & Banning, 1978). The technique was named after the temple of Apollo at Delphi, where the oracle made the future known to those who consulted her (Hayes, 1989). In its more complex, the Delphi is a method for organizing and sharing forecasts of the future designed by repeatedly polling a panel of experts. The Delphi is a viable technique to determine both present situations and predictions of the future because it relies on individual judgment. This collective approach attempts to overcome the inherent weaknesses found in obtaining conjectures about the future by relying on "a single expert, a one-shot group exercise, or round table discussions" (Bryman, 1991, p. 19). The principle of the technique is that group judgments are better than individual ones and that experts make conjectures through judgment and shared information rather than by guessing (Bryman, 1991). It also allows the resulting computed consensus to be obtained without requiring large groups of people to come together in one place at one time (Bryman, 1991). As a procedure, the Delphi technique allows a researcher to select participants who remain anonymous in contributing opinions about a topic as a series of questionnaires. These participants also give shared input from colleagues during the continuing steps in the research process. The number of rounds of questionnaires in Delphi applications varies (Bachrach, Ben de Ven, & Garmann, 1981).

Statement of Purpose

The purpose of this study was to identify, by using a Delphi technique, curriculum and programming needs for gifted secondary

students (grades 7-12) in public schools over the next decade, to identify the skills and competencies for appropriate instruction required of gifted secondary students and their teachers in secondary schools, and to determine to what extent these administrative programming needs and competencies were perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida.

Limitations of the Study

Subjects for the first phase of the study consisted of 18 national experts in the field of gifted education. Subjects for the second phase of the study consisted of a random sample of administrators and teachers of secondary gifted students selected from the 47 public school districts in the state of Florida.

Limitations of the Study

The study was limited in that the subject population for the first phase consisted of 18 national experts. A second limitation of the study was the use of a random sample of administrators and teachers of gifted secondary students in the state of Florida. Further gaps of administrative and teaching experience, administrative or teacher training background, or areas of certification were variables under investigation. There may be a possibility of differences in the responses as related to years of experience, administrative or teacher training background, or areas of certification of teachers and administrators. Results of the study may not apply to gifted students at the primary or middle school levels. A third limitation of the study

and that descriptive assumptions provided by the sample as both phrases were the preceptions of these individuals.

Definition of Terms

Administrator.- That person who is primarily responsible for supervising the education of gifted students in a school district. These types of administrators are (a) General Administrators, (b) Exceptional Student Education Directors, and (c) Coordinators of gifted education. Each type of administrative group is based on the definition of responsibilities within gifted education. For clarity, the following definitions of administrative divisions apply:

1. Level of Definition I.- The General Administrator is the person whose administrative responsibilities include duties related to regular education, exceptional student education, and gifted student education.

2. Level of Definition II.- The Exceptional Student Education Director is the person whose administrative responsibilities include duties related to exceptional student education and gifted student education.

3. Level of Definition III.- The Coordinator of gifted education is the person whose administrative responsibilities include duties related to the education of gifted students only.

Advanced.- A program or course of study of high standards and responsibility which replaces a regular course and is open only to students of superior ability.

Advanced placement. A program or course of study in which a student is presented information beyond the elementary or introductory level.

Beigha technique. "The Beigha technique is a method for the systematic administration and collection of judgments on a particular topic through a series of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier responses" (Beigha et al., 1976, p. 10).

Eggen. A leader in the field of gifted student education, nationally recognized for numerous publications, scholarly presentations, and organizational visibility.

Gifted student. As stated in Section 803, The Gifted and Talented Children's Act of 1975 (P.L. 94-142), "gifted students are

those who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capabilities in areas such as intellectual, creative, specific academic, or leadership ability, or in the performing and visual arts, and who by reason thereof, require services or activities not ordinarily provided by the school." (Blackburn & Jordan, 1981, p. 482)

Secondary school. A public school in the state of Florida which serves students in grades 8-12 or 10-12.

Secondary teacher of gifted students. Those teachers who are responsible for instruction of students in advanced or advanced placement programs in grades 8-12 or 10-12.

Special education. Specifically designed free and appropriate public education designed to meet the appropriate needs of handicapped

children, including classroom instruction, instruction in physical education, home visitation, and instruction provided in hospital and institutional settings (Weys, 1977).

Summary

Educational provisions for gifted students in secondary public schools reflect programming problems which must be addressed for the future growth and development of the field. Programs serving all aspects of secondary education have been restricted by the public, by the press, and by politicians who represent policy. Schooling in the 1970s is a major issue. Special education in general and gifted secondary education in particular suffer from a lack of appropriate evaluation data for innovation and effective programming. In order for all students to achieve maximum growth from their potential, adequate and appropriate curricular programming is critical.

Doubt has arisen about the ability of public school administrators to deliver on their promises (Rabin, 1984). As explained by Bass and Freeman (1982), there is concern that programs are not reaching their target population by providing appropriate resources to students who need to demonstrate expected benefits from these programs. Secondary gifted programming is included in this overall concern for the quality of education. There is, in this regard, a lack of research in the area of effective secondary education programming for gifted students.

The purpose of this study was to identify instruction and programming needs for gifted secondary students in public schools.

over the next decade, to identify the skills and competencies for appropriate instruction required by gifted secondary students and their teachers, and to determine to what extent these administrative programming needs and competencies were perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida.

CHAPTER II A REVIEW OF THE RELATED LITERATURE

The passage of PL 94-142, The Education For All Handicapped Children Act of 1975, is an history -- as reported by Baker and Bennett (1984), "This landmark legislation, its rules and regulations and directives have designed to achieve its intent in the states, national delivery of a broad range of services, including assessment, transportation, related services, personnel development, and administration" (p. 30). The provision of a free and appropriate education for handicapped children is operational in public school systems throughout the United States. The national attention which was focused on exceptional students as a result of PL 94-142 has been felt by school administrators, staff, parents, as well as by exceptional students themselves (Gallard & Burtell, 1977; Goodson, Hollahan, & Hoffman, 1984; Baker & Bennett, 1984; Fuchs & Fuchs, 1984).

Within the realm of the exceptional student population exists a subgroup of students who remain underserved (Thomson, 1982). The subgroup of students consists of those children identified as the gifted and talented. As discussed by Gold (1984), "enrichment programs for the gifted have been buffeted by social, psychological, and philosophical currents in U.S. education" (p. 406).

Children and adolescents are placed in programs for gifted students because they do not profit from regular education settings. Yet, these programs are failing to meet the needs of gifted students, especially at the secondary level. According to Farnes, Sheffield, and Miller (1984), the available research on effective school practices is particularly lacking at the secondary level. Farnes et al. attributed the lack of a secondary education data base to the following three reasons:

1. First, the available research on U.S. schools tends to emphasize a single measure of effectiveness: student achievement. However, at the secondary level (perhaps more so than at the elementary), achievement is only one of many important goals.
2. A second shortcoming of the U.S. research base for use by secondary schools is that it relies on data from elementary schools.
3. A third limitation to using the effective schools research base as a guide for developing high school programs is the fact that the data come from studies of urban schools serving predominantly minority populations. (pp. 170-171)

Three responsibilities for teacher preparation programs for students requiring in secondary education have realized the need to direct attention toward secondary educators through a more comprehensive program approach. Some universities (e.g., University of Texas and University of Florida), recognizing the need for more comprehensive teacher training programs, require more extensive coursework and more intensive clinical/student-teaching experiences over a five-year period for students preparing in secondary education (Hansen, 1984; Smith, Corvill, & Foy, 1984).

There is a need during the 1980s for teachers of secondary gifted students to develop improved conceptual understanding skills (Bettner, 1945; Lake, 1946; Morgan, Tamm, & Gail, 1952; Thomas, 1961). The importance of assessing the program for secondary gifted students as well as the policies implementing their appropriate delivery cannot be overemphasized. "Good policy depends on two judgments: knowing what to do and knowing how to get it done" (Harris, 1984, p. 18).

In Florida, researchers have made an effort to evaluate the skills and competencies needed by teachers of exceptional students through the Personnel Competencies Research Project (1982) and through the Florida Performance Measurement System (Manual for Coding Teacher Performance, 1984). However, neither project addressed the gifted population.

The present study was undertaken to examine program needs of gifted students at the secondary level over the next decade and to examine the student-teacher skills in these programs. Four major areas were addressed:

1. curriculum and program needs for gifted students at the secondary level (grades 9-12),
2. skills and competencies needed by gifted secondary students,
3. skills and competencies needed by teachers of gifted secondary students, and
4. perceptions of these programs and skills by administrators and teachers in the state of Florida.

The investigation was based on information obtained from 40 national experts in the field of gifted education and from a random sample of administrators and teachers responsible for gifted education (grades 5-12) in the public school system of the state of Florida.

Selection of the literature

Information for the review of related literature was obtained through a variety of sources including the Educational Index, Current Index to Journals in Education (CJIE), Dissertation Abstracts International, Educational Documents Abstracts (EDA), Resources in Education (RIE), textbooks, state or monographs, journals, and personal correspondence. An ERIC search was included as part of the methodology of locating relevant literature published from 1974 through 1983. Since this study investigated gifted secondary education as an attempt to forecast programming needs, student skills, and teacher competencies a decade into the future, it was determined that the ERIC search would be comprised of literature reported a decade in the past.

Descriptors for the ERIC search included gifted, secondary education, gifted and secondary education, advanced placement, teacher skills, student skills, Florida, and Florida programs for grades 5-12. After an extensive review of related literature studies were divided into the following areas:

1. secondary education,
2. secondary special education,
3. gifted education,

1. secondary gifted education

1.1. skills and competencies of secondary gifted education for

students and teachers, and

1.2. the Delphi technique

The following literature review contains the extent of current knowledge regarding the aforementioned six areas:

Secondary Education

History

The purpose of establishing schools in the early 17th century in America was to prepare students for their appropriate roles in society. In America, the first secondary schools were established in the early 1600s in Massachusetts. Until Latin grammar schools because of their early curriculum, the first secondary schools prepared students to enter Harvard College, established in 1636 as America's first institution of higher education. Early curricula centered almost exclusively on Latin and Greek, following the traditional European tradition of preparing elite scholars to read the Bible and New Testament (Smith & Payne, 1994). The Latin grammar school was virtually the only type of public secondary school in America until 1784, when Benjamin Franklin opened a new type of secondary school called the academy. The original academy was located on the site of what is now the University of Pennsylvania. Modern languages and practical, vocational subject matter comprised the curriculum.

The academy was replaced by the high school, an institution brought about by the rising middle class seeking to make education more available to the general public. This first high school,

established in Boston in 1811, was called English Classical School (Smith & Payne, 1988). By 1863, all states in the United States were providing compulsory public education (Thompson & Algranize, 1981).

Presently, schools were established because humans lack general knowledge and needs for the aspects of learning. School is defined as "a social institution established by society to instill in children its beliefs and knowledge base and . . . school instruction is both systematic and deliberate" (Thompson & Algranize, 1981, p. 70). This definition leads to the goal of American education, as stated by Thompson and Algranize (1981):

Schools in America exist for the purpose of educating all the children in the society, instilling in them an appreciation of democratic principles, a sense of nationalism, and a belief in the worth of the individual, and educating them to their utmost capacity. (p. 7)

These goals, perhaps, are their formal statement first in 1943, when believing that education prepares people for a lifetime of learning, the National Committee of the Project on Instruction of the National Education Association identified five educational priorities in their report entitled Building What to Teach. In part, the report stated,

educational objectives need to be placed upon such ends as (a) learning how to learn, how to attack new problems, how to acquire new knowledge, (b) using rational processes and developing an abiding interest in learning, (c) exploring values in new experiences, (d) understanding concepts and generalizations, (e) competence in basic skills (Thompson & Algranize, 1981, p. 8)

Secondary education found its current design during the first 20 years of this century. Chiefly responsible for the increase in the

number of students attending secondary schools were child labor laws, the great depression of the 1930s and 1940s, and America's involvement in two world wars. Removal of children from the work force and post-war baby boom increased enrollment in secondary schools. The presence of more students in schools marked a shift in curriculum due to large preparations to general preparation for life, i.e., development of work skills. Today's comprehensive high school evolved by the third quarter of the 20th century (Smith & Byrnes, 1999).

Secondary Curriculum

Meeting the needs of adolescents and implementing secondary school objectives is accomplished through curricula. Smith and Byrnes (1999) noted that various elements of secondary curriculum are composed of a formal plan, derived activities and experiences, and a specific setting in which the plan and activities take place (the school itself). Bellamy and Smith (1994) indicated that, although secondary schools exhibit many types of organization, the following four types are most common:

1. subject-oriented curriculum—sequential exposition of knowledge of traditional subjects;
2. issue-focused curriculum—relationship of subject matter cross-cutting studies, individual coursework;
3. case curriculum—provision of learning experiences to facilitate problem-solving abilities; and
4. experience curriculum—dependence on teacher effectiveness to transfer student skills to specific student-oriented, action-oriented tasks.

Contemporary Secondary Education

Despite goals and objectives and types of curricula, American schools are experiencing a contemporary criticism that they fail to properly educate a significant number of students. This criticism is not new. According to Jones and Tyack (1980), "people who work in high schools have never lacked advice about how to do their jobs better" (p. 400). In fact, what secondary schools are doing and how they should do it better have been debated for over a century (Kliebard, 1986). During the last 50 years in particular, studies and governmental commissions have investigated the severity of the decline of America's schools (Feyer, 1981; Gardner, 1985; Graham, 1981). The investigations have been undertaken because of the student drop out rate, lack of achievement in expected levels, and literacy rates (O'Malley, 1981; Thacholy & Kigorian, 1981). Cappione (1981) decried the decline in both achievement and academic standards. Declining achievement during the 1960s and 1970s has been attributed in part to the belief that the decade of the 1960s was a period of general revolt against education as being lacking in "real world" relationships and the assumption that the teachers, were diverse population of handicapped and minority students returned to schools brought average scores down (Thacholy & Kigorian, 1981).

Trends

More should attention be directed during the next decade to the investigation of secondary schools and their purposes. According to Kliebard (1986), studies should be attempted which specifically

include special education students, and which investigates the content of secondary school curricula--not just what courses are available, but what content is taught in those courses. The need for continuing research into secondary education is growing, since Crismonden (1986) indicated through reference to the Coleman Report of 1974 that a majority of 30% of the 12-18 year olds enrolled in school would prefer not to be and that negative attitudes about schooling are still high. Paine (1985), in discussing suggestions for the improvement of secondary schools, noted that curriculum content and structure as well as instructional processes and management need to be more responsive to specific students' needs. Accordingly, Paine (1985) stated "Students need interesting, motivating things to study and interesting, motivating ways to study them" (p. 374). Appropriateness of curriculum content and its delivery appear crucial to the improvement of secondary education.

This emphasis on the reform of schools to better meet student needs is a measure of education at the secondary level. During the last decade, according to Barth and Feyer (1986), three major issues or trends in this regard have surfaced-- (a) the issue that today's comprehensive high school is, in fact, "uncomprehensive"; (b) the development of alternative schools, and (c) the maximum competency setting movement. All three issues address the concern for secondary education of the 1980s and 1990s--meeting students so that they can achieve to their maximum potential. The stage has been set, then, for special education across all children (not special school) and not all

children can achieve success in a lock step learning progression without special assistance (Thuridylke & Sigurdson, 1981).

Secondary Special Education

Definition

Special education, in both definition and practice, is a subcategory of education which exists to serve exceptional students who, because they deviate from the average, require changes in school practice to reach full potential and profit maximally from school experiences (Gleason, 1988; Kirk & Gallagher, 1988; Thuridylke & Sigurdson, 1981). The changes implemented involve curricula, utilization of unique materials, and distinct methods or techniques in teaching (Klein & Cook, 1981).. Individualized programs for exceptional students encompass a variety of conditions which are said to deviate from the norm or average including mental deviations (generally rapid or slow development), visual and auditory handicaps, learning disabilities and expressive problems, multiple and severe physical handicaps, and emotional handicaps.

History

The formal education system for these exceptional students evolved in the United States with compulsory attendance laws in the mid-19th century. When students failed to succeed in regular class graded content instruction, special education services became necessary to assist them in school (Thuridylke & Sigurdson, 1981).

Early educational programs in the United States offered exceptional students a special class setting, an early separation which served

seemly to clear the school's lock-step graded classes of "different" students who attracted attention to themselves while distracting other students from their overall learning experience. The exceptional students were then in route to a treatment facility (institution) for "defiant" pupils. According to Tomalidis and Alginate (2006), despite early provisions for students with selected disabilities (in 1817, American Asylum for the Education and Instruction of the Deaf, in 1828, New England Asylum for the Blind, and in 1829, Massachusetts School for Idiotic and Pech[unusual] Youth), early school special classes were simply repositories for misfits.

As the 19th century dawned, remedial classes within the public schools were accepted as less of separate, institutional settings. The first public school classes, for example, for mentally retarded students were begun in Rhode Island in 1896. From those early efforts, special education currently services in public schools more than four million students in a mixture system of programming efforts (Tomalidis & Alginate, 1994).

The services available to special education secondary students are directed at assisting them learn most effectively in as much a regular classroom setting as possible. According to Tomalidis and Alginate (2006), studies for education range from least to most restrictive individual services (regular classroom instruction with instructor consultation by special education personnel), part-time direct services (primarily regular classroom instruction with resource room help), and full-time direct services (primarily grouped class assignment or

instruction in residential/institutional settings). Moreover, special remedial programs and vocational education programs traditionally have been implemented by the use of categorical groupings. These traditional program options take the form of work-study, usually associated with the ability retarded, to the resource room, extensively used with learning disabled adolescents (Smith & Payne, 1986).

Contemporary Secondary Special Education

During the past ten decades, increased concern has been expressed about appropriate programming for the exceptional adolescents at the secondary level (Epstein, 1972; Miller, 1981; McDowell & Green, 1978; Messinger, 1982). Unfortunately, this concern has not resulted in the development and implementation of new classroom accommodations for secondary special education programs. In fact, little has been done to change high school classroom instruction despite a plethora of reform efforts advocated (Lieber, 1981; Sizer, 1982; Kohn, 1982).

Programs for secondary special education adolescents have apparently been haphazardly constructed. Program objectives, direction, and evaluation have been lacking. Innovative teacher training programs for those individuals with a desire to work with special education adolescents are hardly nonexistent. Colleges of education are just beginning to realize the need to develop and implement teacher training programs which will better prepare regular educators as well as special educators to meet the needs of exceptional students at the secondary level. Such programs are likely coursework and field experiences specifically related to exceptional students in high school settings (Blumen, 1984; Smith et al., 1986).

Despite recent efforts, a number of secondary special education programs which seek to serve the high school exceptional adolescent have been "ill conceived and poorly staffed by persons untrained to work in such programs" (Smith & Feyer, 1982, p. 34).

This problem of trying to decide the best method and materials to use for the high school student is compounded by a lack of an adequate data base on which to make decisions for improvement. Although a respectable amount of research has been produced on special education children, Smith and Feyer (1982) stated,

there is not even for the secondary level exceptional pupil the quantity of research and writing has created situations in which poorly trained teachers, in often poorly designed programs, use teaching methods and materials that were designed for use either with average secondary pupils or for younger exceptional pupils-- (p. 34)

The relative backwardness of secondary programs for exceptional adolescents is an accurate present-day reality. Although a few well-established programs exist as models for the mildly handicapped, they are not the general rule. Some institutional options include the following: work study for the mildly retarded (Berlin, 1978) and the Deerfield Learning Disabilities Project in Deerfield County, Florida (Goodson & Mann, 1979). In addition, contemporary secondary options have emerged in the area of unidyslexic youth, such as the following: the Woodard Day School in Massachusetts (Dunaway, Mitchell, Gannon, & Murray, 1979) and the continuing education program for exceptional students at Howard Community College in Pikes Peak, Texas, (Feyer, & Gandy, 1977).

Spokane (1981) discussed program options for special education adolescents within the framework of four developmental educational goals. The four goals advanced were learning competencies, social participation, community participation, and career preparation. Each of these four goals is an area in which adolescents need effective instruction in order to take their place in society.

An additional area of concern for educators of special education adolescents is that of career education. Career education was introduced as a major educational reform in 1971 by then U.S. Commissioner of Education, Sidney P. Harkness. Career education has been defined as "the process of systematically coordinating all school, family, and community components together to facilitate each individual's potential for economic, social, and personal fulfillment" (Fisher & Salasda, 1979, p. 107). Although there exist a variety of career education models, two of the most comprehensive are those developed by Fisher and Salasda (1979) and Clark (1978). Even though the two models have comparable organizational structures, each is unique in its approach. The models are highly compatible and can be integrated into secondary programs for special education adolescents.

Despite the emphasis of career education models as effective approaches to curriculum development, secondary special education students are still a neglected population (Orlitz, 1976; Nelson, 1981). viable options for special education programming at the secondary level must continue to be explored. A few of the trends recently showing promise from secondary special education are discussed in the next section.

Trends

Within this secondary special education framework, the Department cannot have been oblivious to trends in the field. Student competency testing (Kaiser-Chandler, 1978) and secondary special education teacher training and certification (Collins & Spivack, 1979). For secondary exceptional students to benefit from program options in the future the special educator must be special. Kavale and Klein (1980) addressed this reality by noting that, despite the growth of special education in the last 25 years, results have been less than special. Wells (1984) concurred and suggested that it is critical that special education also specify those components that are special about special education.

Meeting the exceptional challenge is a challenge. As stated by Spivack (1981),

In the 1980s, a major task confronting professionals will be the development, implementation, and evaluation of alternative programs, interventions, and service delivery options. (p. 360)

Of particular concern is the 1980s for special education at the secondary level in the gifted population, for of all the widely recognized programs for exceptional students today, the least recognized one is that for the gifted, talented, and creative (Kosmanov, 1980).

Gifted Education

Introduction

As discussed by Kaskhovich and Levine (1981), the education of gifted students has been characterized by neglect. The explanation

for these students live in various circumstances about gifted students. The belief that gifted students can succeed despite their programming in school, for example, appears to be untrue (Hayes, 1978; Morgan et al., 1980; Pendergast, 1981). Without appropriate programming, gifted students are not successful in their academic efforts (Harwood, 1971). Pendergast (1981) reported that at least one study of high school dropouts indicated there was nearly as great a percentage of gifted dropouts as there was of gifted students in the total school population. Neglect stems, in part, from the assumption that gifted programming promotes intellectual mastery since gifted children are the products only of upper and middle class parents (George, Cobb, & Stanley, 1978; Pendergast, 1981). An alternative explanation for the neglect of gifted and talented students is that these students have become lost in the shuffle within federal provisions intended to help the handicapped special education student achieve in school. Kammerer, Salishan, and Kaufman (1984) stated this situation as follows:

Education of the gifted and talented is designed to help the best students perform better. It is inconsistent with the idea that the purpose of special education is to help children get closer to the average in school performance. . . . Compared to education of the handicapped, education of the gifted and talented is a small enterprise. It is not mandated by Federal law or funded by the Federal government. The amount of money spent for it is extremely small compared to that spent on education of the handicapped, and there are few teacher training programs. Nevertheless, progress is being made, primarily at the state level, in giving the most capable students in our schools an education appropriate for their abilities. (p. 231)

History

Concern for gifted education, like concern for the education of any exceptional child, finds its roots in the social and political philosophy of the time within a society (Kirk, 1971). Historically, youngsters with high intellectual capability consistently have been singled out while very young for specialized instruction (Grossbart, 1982; Kirk, 1977). In ancient Greece, for example, over 2000 years ago, Plato advocated this special education for high-intelligent youth, with intensive studies in sciences, philosophy, and metaphysics. The best knowledge of this group would then become the leaders of the state. It was felt that Greek democracy would survive only if the culture could educate its superior citizens for leadership positions (Kirk, 1977). Socrates and Aristotle (1961) noted that, in the 14th century, the Turkish Empire identified superior individuals and provided them with specialized education leading to the power of the Ottoman Empire. During the 18th and 19th centuries in Europe little was done to select gifted children and offer them specialized instruction since secondary schools and universities were assumed to educate individuals in the upper social levels of society. In the United States efforts generally have been to educate according to mass education procedures. Notable historical milestones in the institutionalization of gifted programming from 1940 to 1980 in the United States include the following:

1. 1933-35 Lewis, Hineswell, public schools' implementation of variable universal promotion;

1. 1918--Elizabeth, New Jersey, implemented grouping for rapid movement through the curriculum.

2. 1926--New York's establishment of special classes for the gifted.

3. 1933--Cincinnati, Ohio's long-lasting Mayor Mark Program of expanding special gifted classes implemented.

4. 1933-1948--implementation, especially in California, New York, and Ohio, of enrichment and enrichment; Thorndike's investigations of giftedness conducted (Thorndike & Cobb, 1947).

5. 1948-1968--"Genius Talent Search," National Association for Gifted Children formed, Sputnik launching by USSR, and

6. 1968-1968--National report (Thorndike, 1977). PL 94-142 intended to meet gifted needs through continued federal funding (Hendricks, 1968).

Until recently, despite these historical milestones, consistent efforts in the United States to develop ongoing gifted programs did not receive wide public recognition or federal financial support (Kirk, 1977). Unfortunately, for example, only the economically-able upper-middle American youth had been able to attend college. This economic reality continued until the creation of the G.I. Bill after World War II which decreased the economic barriers for higher education suffered by lower income students. Overall effort to establish programming, however, continued to be sparse.

Kirk (1970) reported that public interest in gifted education in secondary schools was related to a combination of national and international situations. The conflict in ideology among world powers

has led to a new feeling of urgency about gifted education. This resulting awareness to provide appropriate programming to these students already has been noted (Dettmer, 1985; Lohr, 1981; Thomas, 1981) and is due in part to the recognition that gifted and talented people improve the quality of American lives (Buckheart, 1980). Indeed, "the quality of our lives is improved primarily by the discoveries, inventions, and creative performances of people who have demonstrated remarkable gifts or talents" (Gardner, Hollahan, & Gifford, 1984, p. 275). In the 1974 Gifted and Talented Children's Act it was stated:

1. The Nation's greatest resource for solving critical national problems is areas of national concern is the gifted and talented children.
2. Unless the special abilities of gifted and talented children are developed during their elementary and secondary school years, their special potential for enriching the Nation may be lost. (Gardner et al., 1984, p. 275)

Contemporary Gifted Education

Despite the awareness of the potential contributions of gifted and talented students little has been done by education policymakers to encourage the development of these students (Gardner et al., 1984). There is, for example, no federal law regarding the appropriate education for gifted and talented individuals. In fact, the Office of Gifted and Talented, established in 1972, was subsequently disbanded (Gardner et al., 1984). Lipin (1982) reported that Congress never actually provided the full amount it authorized for educating the gifted. This coincides with the harsh reality that gifted and talented

students, in the early 1980s, were allocated to receive only a small fraction (less than 1/100) of the federal budget allocated for the special education of exceptional students. Funding has been insufficient to meet the needs of the gifted and talented population (Goodman, 1982). There was, according to Esslinger et al. (1983), a lack of federal funding specifically designed for the education of gifted and talented students. When funds did exist for the gifted and talented have been placed within a block grant direct to the states for educational purposes. However, since there is no federal requirement that they do so, states use or may not spend part of their allocations on gifted education. Consequently, educational provisions for gifted and talented students are left to the discretion of state and local educational agencies. Myrland (1982) reported that many local school districts are still not emphasizing gifted and talented students' educational provision.

Characteristics of Gifted Students

Before gifted and talented students can be afforded any programs they first must be found and identified. Early definitions of gifted in the United States were synonymous with an IQ score, specifically the Stanford-Binet Intelligence Test developed by Lewis Terman after World War I (Ruck & Gallagher, 1982). A person with a score of 130-140 was declared gifted. The definition of giftedness has been broadened from general intellectual ability in the last two decades to include increased dimensions of ability in the following areas: specific academic aptitude, creative or productive thinking, leadership ability,

and ability in the visual and performing arts (Piantarola, 1992)

A composite list of characteristics, developed by Forehand (1999),

is presented below

Academically superior
 Applies system approaches (often self-invented) to problems
 Applies abstract principles to concrete situations
 Confident
 Highlights underachievement under certain conditions
 Difficultly in connecting with age mates
 Emotionally stable
 Extravert/Introverted
 General curiosity
 Great common sense responses
 High energy level, especially in mental/intellectual tasks
 High regulatory level
 Intellectual curiosity
 Intellectually superior
 Inquisitive
 Logical ability above age level
 Makes individualistic interpretations of new subject matter
 Obsesses or reobsesses when asked to do repetitive tasks
 Original (may relate to visual responses, problem solving, etc.)
 Perceptive and identifies significant factors in complex situations
 Persistent in achieving goals
 Physical ability, average or above
 Pleasant in intellectual pursuits
 Pleasure in pursuing mentally difficult mental tasks
 Power of concentration
 Suspicious and is uncomfortable with unreserved ambiguity
 Talks against conformity
 Unconformity oriented
 Sense of humor
 Sensative to problems of others
 Solves steps in novel (expected) thinking sequences
 Socially aware
 Strong sense of responsibility
 Superior ability to remember details
 Superior ability to see relationships
 Unhappy with most group participation projects (with manual goals)
 Understanding of routine classroom rules
 (Never demonstrated talent (in my area)
 Verbally facile
 Verbally flexible

(pp. 148-149)

a definition and characteristics of the gifted and talented still require an adequate system of identification and assessment before programming can be initiated. Testing and observation are important in this regard. A high score on an intelligence test no longer should be enough for proper identification of a gifted and talented individual. High motivation and creativity should be apparent as well (Gardner et al., 1980). Renzulli (1977) suggested an identification model based on multiple criteria of intelligence, creativity, and motivation. Consequently, 1% to 5% of the population probably could be considered gifted or talented using today's definition (Gardner et al., 1980). This group is most diverse and heterogeneous (Treffinger, 1982). Gifted women, underachievers, culturally different youth, and the handicapped are recognized more now than previously as gifted and talented even though their representation within gifted programs is still small (Thomson, 1982).

Program Planning

The educational program for gifted and talented students in public schools has undergone changes in the past decade according to Gardner et al. (1980). Four major differences in educational treatment of the gifted were listed as follows:

1. gifted education is oriented more toward benefiting the gifted individual rather than toward attempting to save all the kids of society,
2. gifted education has expanded beyond serving only the intellectually gifted;

3. gifted education is using multiple program options to serve the gifted student, such as special schools, resource rooms, cluster groups in regular classes, acceleration, and enrichment, and
4. gifted education is now serving special populations such as minority and ethnic groups.

These four differentiations are contemporary since historically programs for gifted students included the following modifications of the regular curriculum: special classes (self-contained classes for elementary students or special sections of one or two hour blocks for secondary students), acceleration (more rapid movement through a program), or enrichment (more enriching components or content within a regular class setting (Gardner, 1986; Kirk, 1991). Whatever the administrative modification, states with good programs for gifted and talented students have four components: Gardner (1986) listed these components as follows:

1. legislation that specifically recognizes the needs of the gifted and talented and encourages local school systems to provide accordingly for these students,
2. continuing, adequate funding,
3. practical administrative framework with appropriate regulations and guidelines, and
4. state leadership to assist local districts for program maintenance.

Educational provisions made available to gifted and talented students have been noted as being influenced by the societal values within a

state or country (Kirk & Gallagher, 1983). Four forms noted by Gallagher (1974) which influenced educational action in the past are as follows:

1. apatheticism--which can hinder gifted educational provisions because of the identical education receiving,
2. universal education--which exists gifted provisions because of student diversity in a regular classroom,
3. democratization of educational decision-making--which can hinder gifted programming since local decisions can be influenced by more immediate, pressing issues than those within gifted programming, and
4. sense of societal confidence--which can hinder gifted programming in that the American culture feels it can conquer anything, even without special help for the talented.

Providing educational experiences of sufficient complexity which challenge gifted students and help them increase their self-efficacy is a problem moving in the goal of gifted program facilitation.

Palmer (1981) provided seven principles in a curriculum which should be included in a gifted program. They are shown in Table 1.

As indicated by these curriculum principles, their application requires changes in major categories or areas of the educational program for gifted learners. These revised programs have been grouped into the following major categories: those focusing on (a) curriculum content, (b) FACETS in productive learning, and (c) modifications of the learning environment (Kirk & Gallagher, 1983, Weiss & Gallagher, 1982). To these Osborne (1981) added *pace of instruction*. Each of these

Table 1

Principles of Curriculum with Pedagogical Applications
for the 21st Century

Principles of Curriculum	Pedagogical Applications
The content of curricula should focus on and be organized to include core sciences, sciences, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.	Special projects should explore systems of ideas such as physical sciences, historical generalizations, economic principles, and that are within the capabilities of students.
Curricula should allow for the development and application of productive thinking skills to enable students to reconceptualize existing knowledge and/or generate new knowledge.	The students should be taught techniques of research and how to generate new ideas so that they become able to process knowledge without depending on teachers.
Curricula should enable students to explore constantly changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.	Share with students the limitations of current knowledge and provide them with intellectual tools to explore the frontiers of knowledge.
Curricula should encourage exposure to, valuation, and use of specialized and appropriate resources.	Students should be taught to use fully resources such as libraries, computers, the collection and processing of data, etc.
Curricula should promote self-directed and self-directed learning and growth.	Problem recognition may be more important than problem solving. Students should gain experience in formulating significant questions.
Curricula should provide for the development of self-understanding and the understanding of one's relationship to persons, societal institutions, nature, and culture.	The role of self in society should be approached directly to allow the students to see how they fit into their culture.
Evaluations of curricula should be conducted in accordance with prior stated principles, stressing highest-level thinking skills, creativity, and excellence in performance and products.	The test of program effectiveness is whether students have the special knowledge and skills noted above, not simply high performance on standard achievement tests.

curriculum has been implemented in school programs from preschool through high school.

Preschool children who are gifted usually spend time adapting positive attitudes about their special skills and learning in a resource room or attending a special school. Elementary and middle school programs for the gifted and talented students are most frequently provided by enrichment and resource rooms. When gifted and talented students reach the secondary level their needs are met through advanced placement, honors, and advanced classes in selected academic subjects, special school enrollment, early enrollment in college classes, or attendance in special "magnet" high schools (Kirk & Collingher, 1981; Mueller et al., 1980). Burns and Collingher (1982) described seven alternative plans for the provision of curriculum modifications for the gifted and talented learner (see Table 2).

Burns and Kline (1982), in discussing the educational adaptation of content curriculum provided a set of principles which are used in the selection of suitable curriculum for the gifted and talented learner. The following list of recommendations delineates principles for the development of a differentiated curriculum for gifted and talented students (Davis & Kline, 1981).

1. Present content that is related to broad-based issues, themes, and problems;
2. Integrate multiple disciplines into the area of study;
3. Present comprehensive, related, and mutually reinforcing experiences within the area of study;
4. Allow for the independent learning of self-selected topics within the area of study;
5. Develop independent or self-directed study skills.

Table 2

Seven Administrative Plans for Curriculum Modification
for Gifted-Talented Learners

-
1. **Enrichment in the classroom** - Provision of a differentiated program of study for the gifted by the classroom teacher within the regular classroom, without assistance from an outside resource or consultant teacher.
 2. **Consultant teacher program** - Differentiated instruction provided within the regular classroom by the classroom teacher with the assistance of a specially trained consultant teacher.
 3. **Resource room/pullout program** - Gifted students leave the classroom on a regular basis for differentiated instruction provided by a specially trained teacher.
 4. **Community mentor program** - Gifted students interact on an individual basis with selected members of the community for an extended time period on a topic of special interest to the child.
 5. **Independent study program** - Differentiated instruction consists of independent study projects supervised by a qualified adult.
 6. **Special class** - Gifted students are grouped together and receive instruction from a specially trained teacher.
 7. **Special school** - Gifted students receive differentiated instruction in a specialized school established for that purpose.
-

[Adapted from Vinten & Gallagher, 1982, pp. 47-48]

6. Develop productive, complex, abstract, and/or higher level thinking skills.
7. Focus on open-ended tasks.
8. Develop research skills and methods.
9. Integrate basic skills and higher level thinking skills into the curriculum.
10. Encourage the development of products that challenge existing ideas and produce "new" ideas.
11. Encourage the development of products that use techniques, materials, and forms.
12. Encourage the development of self-understanding, that is, recognizing and using one's abilities, becoming self-directed, and appreciating similarities and differences between oneself and others.
13. Evaluate student outcomes by using appropriate and specific criteria through self appraisal, criterion-referenced and/or standardized assessments. (p. 180)

Curriculum Models

Differentiated learning experiences for gifted and talented adolescents are provided through teaching-learning curriculum models. These models serve as a theoretical framework from which learning activities for gifted students can be developed. Twelve of the more common curriculum models are as follows:

1. Bloom's Taxonomy of Educational Objectives (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956).
2. Bruner's (1960) "Basic Structure of a Discipline" Model.
3. Feldman's Three-Stage Enrichment Model (Feldman & Solloff, 1979, 1981).
4. The Guilford/Neuhar Structure of the Intellect Model (Guilford, 1967, 1977; Neuhar, 1985).
5. Guilford's (1968) Novel Experiences Model.
6. Farnan' (1977) Creative Problem Solving Model.
7. The Enrichment Triad Model (Renzulli, 1977).

8. The Ransolving Lear Identification Model (Ransdell, 1971, & Smith, 1981);
9. Yule's (1944, 1945) Sequential Questioning Strategies Model;
10. Taylor's (1978) Multiple Talent Model;
11. Treffinger's (1975) Self-Instructional Model; and
12. Williams' (1979) "Thinking-Feeling" Strategies Model.

These models are complementary and have been used by the teacher of the gifted individually or simultaneously to implement developmental activities in the areas of content, skill development, and learning environment. These 12 models are outlined in Table 2.

Trends

Even though progress has been made in modifying the content, skills, and learning environment of the gifted learner within a total integrated school program, Ransdell et al. (1988) noted that "resistance to the very notion of special education programming . . . still is easy to find" (p. 102). A fear of elitism and an anti-intellectualism, especially are responsible for this resistance. Ransdell et al. (1988), however, indicated "opponents of such education can point to an almost complete lack of research showing that special programs of any kind are effective in helping gifted and talented children become more productive adults" (p. 102). Indeed, the worst education provided to students who are average will do nothing by permitting the gifted and talented to strive for greater achievement. In addressing the issue of the provision of appropriate educational opportunities for the gifted, Smith (1981) noted that the main issue involved is "whether programs provided for them are truly differential" (p. 84).

Table 4

Outline of Teaching-Learning Models in Curriculum for the Gifted

Model	Key Individuals	Descriptions
<u>Flower's Taxonomy of Educational Objectives Model</u>	Flower, Englehart, Furst, Miller, & Gruchinski	Dimension given to higher level cognitive domain, including analysis, synthesis, and evaluation
<u>Bloom's "Basic Structures of a Descriptive" Model</u>	Bloom	Teaching structures of any discipline and relationships between them
<u>Frederick's Three-Stage Descriptive Model</u>	Frederick, Gellert	Three stages to develop creative thinking, focusing on research, independent learning skills, and positive self-concept. Stage I resembles Bruner's Type II
<u>Gaillford/Hacker Structures of the Individual Model</u>	Gaillford, Hacker	Theory of intelligence using 120 combinations of 5 operations, 6 problems, and 4 contents. Hacker gives, from Gaillford, diagnostic classification of learning disabilities. 50% aim at identification of minority students and in career exploration
<u>Gallberg's Novel Solving Model</u>	Gallberg	Development of novel reasoning, identified in six stages, used to increase attention to novel, abstract thought
<u>Furness' Creative Problem-Solving Model</u>	Furness	Application of imagination to practical business and professional problems
<u>The Merrill's Developmental Model</u>	Merrill	Structure for learning: Type I individual explanatory activities, Type II individual group activities in evaluating thinking through research skills, Type III individual identification of real problems

Table 3--Continued

Model	Key Individuals	Description
The Learning Goal Identification Model	Kemnitz, Davis, & Smith	Programming guide for talent goals of students for enrichment, all three types
Taba's Sequential Questioning Development Model	Taba	Four sequential questioning techniques to deal with intellectual tasks, emphasizing sequence of cognitive development: concept development, data interpretation, application of generalizations, and conflict resolution
Taylor's Multiple Talent Model	Taylor	Activities focus on academic ability, creativity, forecasting, and decision making-evaluating
Treffinger's Self-Directedness Model	Treffinger	To increase self-directedness in 4 steps: command, task, peer-partner, self-directed topic activities, using inquiry and home problems for positive solving opportunities
Williams' "Thinking-Feeling" Strategies Model	Williams	Six activities based on combinations of subject-matter, teaching strategies, and feeling processes. 18 teaching strategies can be classified according to 3 enrichment model categories

Probably future trends in program differentiation could include curricula emphasizing interdisciplinary activities, research methods, creative problem solving, symposiums, seminars, nonverbal study techniques such as drama, and analysis of mind and consciousness (Owen, 1982). Assessing future appropriate programming for the gifted and talented which is adequately differentiated from the regular curriculum relies on the ability of these programs to improve various target populations. These target groups, their interests, and needs are presented in Table 2 (Owen, 1982).

Educational disenchanted, waste of potential, and possible dropout and failure are negative outcomes of poorly planned programs for gifted adolescents. The negative outcomes could be real possibilities, especially for gifted adolescents at the secondary level. Often these students select courses which "hardly amount to a program for the gifted since they [these courses] ignore the problem of motivation in the bored but gifted student . . . who is unstimulated" (Owen et al., 1980, p. 52).

Secondary Gifted Education

Introduction

The needs of gifted and talented adolescents have been listed by Fulderson and Ryan (1981) as follows:

1. Maximum achievement of basic skills and concepts.
2. Learning activities at appropriate level and pace.
3. Exposure to creative thinking and problem solving.
4. Development of divergent abilities, especially in logical deduction and convergent problem solving.

Table 4

Selected Program Initiatives and Goals by Program Group

Program Group	Initiatives	Probable Values Achieved by Initiative Programs	Programs Derived from These Programs
Legislation	Cost effectiveness Approval of constituents	Essential legislative Executive branch Legislative status programs	Establishment of models Establishing of funds
State Educational Agency	Accountability Confidentiality	Setting of legislative Executive branch Legislative status programs	Establishment of specific regulations Establishment of support
Local School Administration	Efficiency Cost effectiveness	Consolidation of school philosophy Access to demands of parents and staff Access to staff requirements	Development of staff disciplinary methods nationalized programs Parental program
School Staff	Efficiency Quality Job satisfaction	Position upgrade efforts Individualized instruction For low performing students Tuition Additional materials and resources	Academy toward public students Flexibility toward special education programs and staff Pressure on administration
Teachers of Gifted	Accountability Job satisfaction	Personal account School program	Normal, attention Qualitative programs Negative account for students
Gifted Students	Satisfaction Program toward goals Understanding Social life	Personal Contribution to society	Partners, among Discussions with "partner" Frequent, factors Status of potential

Table 4--Continued

Target Group	Interventions	Probably Issues Addressed by Inclusive Programs	Possible Actions from Four Programs
Parents of gifted	CLIP's within identified students	Introduction help with social education of child	Continuum of schools before/after school from school
Community	Identified benefits Cost effectiveness	Empower schools Relevant community Social benefits	Partners in school administration Directions to legislation
Higher Education	Expansive enrollment Student competency	Enable focus Expand on education	Loss of credibility Loss of program

(Adapted from Levine, 1988, p. 147)

4. Stimulation of imagery, imagination, spatial orientation
5. Development of self-awareness and acceptance of one's capacities, interests, and needs...
7. Stimulation to pursue higher level goals and aspirations (ambitions, pressures, standards)
8. Exposure to a variety of fields of study, art, professions, and occupations...
9. Development of independence, self-direction, and discipline in learning
10. Experience in relating intellectually, artistically, and affectively with other gifted students
11. A large fund of information about diverse topics
12. Access and stimulation to reading (p. 17)

Meeting these needs at the secondary level is accomplished through programming alternatives, models, and curricula (Haklev, 1982). One major difference between secondary gifted programs and those at other levels (i.e., preschool, elementary, and middle school) lies in the area of curriculum organization (Dink, 1972).

Curriculum Organization

Major categories of curriculum organization for the secondary level gifted and talented student include acceleration, enrichment, and grouping. These alternative programming strategies may overlap so that student needs and interests are best accommodated.

Acceleration. Acceleration is faster movement through the student's school of a curriculum which matches individual capability to course requirements (George, Cole, & Steiner, 1981). It can be horizontal, providing more material at the same level, or vertical, providing increasingly more complex levels of material (Bhatara, 1983). Grade skipping, the traditional method of acceleration, has been almost as unpopular because of the concerns of missing critical basic skills

and the potential for adjustment problems (Giri & Gallagher, 1992). Advanced placement (AP) coursework, another form of acceleration, is where students obtain college credit after completing a more rigorous subject-area curriculum and after passing an exam conducted by the college board. Courses in an AP curriculum may follow an honors, advanced, AP-specific, or independent study format. An entire year of college credit can be earned through this approach. The College Level Examination Program (CLEP), as well, offers students the opportunity to earn college credit, not by coursework, but through examination (Kornet & Christie, 1992).

Early admission to college is another way for gifted and talented students to participate in educational program (Poi, 1992). Secondary students who matriculated but to earn incentives earned more scholarships, showed better study habits, presented a happier appearance, and graduated college before the age of 30 (Gange et al., 1992). A well-known program for the acceleration of bright high school students into college-level work is that which Julian Stanley began at Johns Hopkins University in 1971 as Studies of Mathematically Precocious Youth (Oakes & Stanley, 1983; Stanley & George, 1986). Now known as the Talented Research program, students with high mathematics talent are selected by high Scholastic Aptitude Test-Mathematics (SAT-M) scores above 840 so that they can develop their gifted potential at Johns Hopkins (Cohn, 1990). Stanley (1979) reported that these high school gifted students have the opportunity to pursue a number of acceleration options, from attending college part-time to skipping

a year or more of high school content. The program(s) include varied academic material (Cohn, 1980).

Talent search activities also exist to accelerate the high school gifted population. The Center for the Assessment of Academically Talented Youth (CTY) was created in 1979 to search for gifted students scoring 630 or higher on the Scholastic Aptitude Test format (SAT-N). All 50 states participate in talent search activities (Cohn, 1980). Cohn's Project for the Study of Academic Potential (PSAP) exemplified a successful talent search program. At Arizona State University in 1983 more than 12,000 gifted students participated in a summer program offering counseling and 14 academic classes and three AP classes. Admission was by SAT-N and SAT-N scores. The students participating appeared to have avoided boredom, had opportunities to meet with experts in their specific areas of interest, and had more time to deal with career planning (Cohn, 1981).

Enrichment. Eisenberg and Davis (1982) defined enrichment as any learning experience that replaces, supplements, or extends instruction beyond the instructional levels and boundaries of course content, methods, and classroom and that includes depth of understanding, breadth of understanding, and relevance to the student and to the world in which he or she lives. (p. 4)

Independent literary research projects are a well-known vehicle by which gifted students can be enriched. Overall (1979) reported that it is important, however, for a product to be produced from these efforts and that the product be presented to an audience.

Fieldhouse (1981) discussed learning centers as an enrichment option within mainstreaming programming. These centers may be incorporated within activities planned for the regular classroom, building resource room, or a centralized gifted and talented students' resource room. Language learning, science, and mathematics activities, social studies projects, and art and music opportunities are all of these centers, which can be teacher-made or commercially produced.

Beyond the area of enrichment for secondary gifted and talented students also fall field trips, as noted by Friedman and Mosier (1982). Besides of the field trip, as part of the differentiated gifted curriculum, must include a project or discussion tied to higher-level thinking skills, such as those proposed by Ross et al. (1980).

The Secondary Program Enrichment Model proposed by Fieldhouse (Fieldhouse & Sobel, 1982; Fieldhouse & Myers, 1980) was called Super Saturday. This program served gifted and talented students by meeting their cognitive, affective-social, and generative needs. The program was available as mini-classes away from the regular school environment and were taught by community experts or college faculty members.

Summer programs provide another enrichment option for gifted and talented secondary students to gain students' mastery in selected areas. Specifically relevant are the Talent Search programs such as MSTT (Hansen & Stenley, 1985; Stenley & Hansen, 1988), CTT (Cole, 1984) at Johns Hopkins University, and SAT at Arizona State University (Cole, 1982).

Residential programs offer another enrichment option to secondary students who are gifted and talented. In this type of program format, gifted

developed such knowledge as a real world context by studying its areas of interest under the guidance of an expert in that field (Kleimond & Hale, 1982). Lefstin (1981) and Levine (1979) noted the similarity as a facilitator to gifted and talented students which transforms learner potential into an actual, experiential relationship. Harrison (1981) reported that high school students, themselves, serve as mentors and tutor their peers. Cox and Gusevi (1982) noted that, to be mentors, gifted high school students should be in the upper 25% academically, have excellent skills in communication, and possess leadership, dependability, and creativity.

Fernance and Fernance (1976) and Grubb (1981) reported the Future Problem Solving (FPS) program, an enrichment activity that can be offered the gifted and talented student within or outside the main school environment. The program deals with development of creative thinking, problem solving, research, and teamwork skills through a futuristic mode. The program is a national one, with a head office at Cox College in Iowa. Synopses of the World (SW) (Gusevi, 1981) also a national enrichment program, follows an athletic model to strengthen the intellect of gifted students through team competition.

Grouping. Grouping is the provision of organizational structures of long or short duration so that students of comparable ability can work together (Gusevi, Davis, Hinkle, & Nelson, 1982).

Enrichment full-time grouping of gifted and talented high school students includes magnet schools, special schools, and special classes. Cox and Gusevi (1982) discussed experimental magnet schools in Boston,

Schools, Classrooms, and Students. The Alabama School of Fine Arts in Birmingham (Jenkins, 1981) and the North Carolina School of Science and Mathematics (Jelliffe, 1981) exemplify special schools. These schools are alternatives for gifted and talented students at the secondary level. Such schools offer nontraditional curriculum work as creative writing, dance, and visual arts, in addition to general academic studies. Identification and placement of gifted and talented students in special schools such as the Alabama School of Fine Arts and the North Carolina School of Science and Mathematics is contingent upon several factors. These factors include previous academic and artistic background, auditions, and interviews. Examples of special class grouping are advanced placement, honors, and advanced coursework in selected subjects from which the secondary curriculum

derives. A heterogeneous full-time grouping at the secondary level entails cluster groups of the gifted and talented in regular undifferentiated classes. Jenkins (1981) discussed cluster grouping as a district-wide gifted and talented program in Lawrence, Kansas, one of its alternative program options. Rogers et al. (1982) presented an organizational program matrix for content areas in the school curriculum, highlighting the content extension components by independent factors and options through individualization and individualization approaches. This matrix is reproduced in Figure 1.

Organization of curriculum for gifted and talented students at the secondary level is a complex task. Options include individualization, individualization, and grouping as previously discussed. The more contemporary

Organizational Patterns	Acceleration	Language Arts	Social Studies/ History	Art	Music	Physical Education/ Gym
<u>Individual Instruction</u>						
Acceleration	1					
Enrichment		1			1	
Field Trips		1				1
Self-Selected			1			
<u>Inter-Classroom</u>						
Cluster Grouping	1				1	1
Supplemental Activities		1				
Independent Study			1			
Gifted in Teams		1				
Patrons for the Gifted	1					
Enriched Classes		1				
Unsupervised Classes			1			
Teacher Rotation			1	1		
<u>Extra-Classroom</u>						
Special Interest Groups		1				
Students		1				
Rotational Program					1	
Community Activities		1			1	
Intership Program			1		1	
Special Classes			1			
Business Centers	1					
Outside Independent Study		1				
Off-Campus Enrichment						1

Figure 1. Organizational patterns to enrich content for gifted learners.

Adapted from Morgan et al., 1989, p. 18

program and practice from these options within the literature focus on the unique patterns of gifted students' characteristics and fall within the areas of acceleration, enrichment, and counseling.

Contemporary Secondary Gifted Education

Acceleration and Enrichment

Both acceleration and enrichment are necessary in accommodating the high abilities and individual needs of secondary students (Fox, 1979; Treffinger, 1981). As discussed by Silberman (1980) and supported by Anderson (1980), traditional teaching models and content areas are too narrow in focus for the gifted student to reap substantial benefits. A wide variety of acceleration and enrichment models have been designed and implemented in an array of educational settings.

Silberman (1980) discussed enrichment and acceleration programming through several viable options. These options include special classes, on-campus offerings outside the school day, off-campus courses and activity options, and special schools. In similar reports, Grotzer (1979) and Tucker (1979) discussed a mathematics enrichment opportunity available through competition at the international level. The International Mathematical Olympiad served as a vehicle for gifted and talented high school students to compete with their peers in the area of mathematics.

Like the International Mathematical Olympiad, Olympiad of the Mind (Hourley, 1981) is a nationally recognized program designed for highly creative students. Initiated in 1975 in Oklahoma State

College, Florence, New Jersey, this program provided mathematically gifted students a highly skilled education based on a variety sports model. Olympic of the Mind operates in over 1,000 schools and reaches 75,000 students. An excellent option, this program assumes that the mind can be trained through exercise with mental games just as the body is trained through physical exercise. Students who participate are selected because of a high ability to develop unusual ideas or insights in both individual and team problem-solving situations. Problems have included the following: "Propel a brick as far as possible using a mousetrap as a power source" (Gourley, Hill, p. 145). Students compete in seven-member teams in the areas of problem solving, ability, and style. The program offers competitions at regional, state, and national levels with student winners receiving certificates, medals, and trophies.

A curriculum modification approach which, unlike the International Mathematical Olympiad or Olympic of the Mind, did not stress peer competition was discussed by Beebe (1982). In this program gifted students, in a traditional classroom setting, solved problems as authentic by writing microcomputer programs.

The realm of science for the honors secondary student has also been addressed. One such program was presented by Pope (1978). This program stressed the scientific aims for the gifted high school individual in a study of science and scientific activities using a format which emphasized goal-setting, Learning Activities Packages (LAP), and instructional agreements.

Another student-oriented program, stressing student autonomy and independence in establishing individual educational objectives and academic goals was Project Challenge (Penciwski, 1982). This approach centers in gifted student planning of learning outcomes instead of utilizing a problem-centered format.

Coxsey (1986) presented a specific historical overview of the advanced placement (AP) program, one of the more prominent types of acceleration options available for high school gifted students. The AP program, which resulted from the School and College Study of Admission with Advanced Standing, was intended to recruit able and ambitious students by focusing on specific subject matter, bringing high school and college teachers together, and eliminating education's traditional lock-step. Martin P. Hansen (1980), the college board's AP director for 12 years, also highlighted the program and its steady growth as a viable academic option for the high school gifted student. Killian (1979), on the other hand, presented another enrichment option within a scientific research framework in anticipation of the Milton Eisenhower Education Center Project. The project was a diverse ecology program stressing the development of intellectual talents by emphasizing writing, speaking, political discourse, and photography.

Salovey and Gagne (1988) reported a follow-up study of 2,400 students identified as gifted by the Study of Mathematically Precocious Youth (1975) to discover the effectiveness of college course enrollment over acceleration for gifted high school students. There were 1,536

students who responded to college information questionnaires. Findings indicated students' grade point averages (GPA) for college courses taken was 3.47 (on a 4.0 scale) and that 100% students rarely encountered social difficulties on college campuses.

The Lake University Precollege Program, Computer Program, and Summer Residential Program for Verbally and Mathematically Precocious Youth were reviewed by Sawyer (1984). These summer program options serve brilliant adolescents from eighth through the end of twelfth grade. An experimental summer camp option for gifted youth was discussed by White (1984). A traditional camp environment included well-developed field sessions with excursions and field trips. The summer course option in the science area was discussed by Hudson and George (1981) who observed divergent thinking in a three-day science summer course for 30 high-level students.

Differential experiences for gifted secondary students were described in the Martin W. Evans School for the Gifted, a model project at Ohio State University (OSU) by Wolf, Swearing, and Finkner (1988). Under the auspices of a state department, university, local school districts, and business community, over 400 high school students from throughout Ohio have spent an intensive 10-hour-a-day week at OSU for academic, cultural, and social activities. Finkner (1987), in a earlier report, discussed the University of Iowa's Iowa Secondary Student Training Program designed to supplement the regular secondary curriculum. The program provided exploration and inquiry, investigation in science through experiences in accelerated courses, enrichment programs, field studies, and research participation.

Clifford, Ruzawa, and Smith (1991) discussed another enrichment based model for meeting the needs for differential experiences of gifted secondary learners. The Learning Enrichment Service (LES) acted as a support system for both students and teachers in training, providing and exchanging information for enrichment programming. LES had a theoretical base in the Enrichment Triad (Demetriou, 1977) and the Learning Style Individualization Model (Demetriou, Reis, & Smith, 1983). Bender (1990) highlighted a residential magnet school concept used in North Carolina for gifted high school juniors and seniors. The school is both state and privately funded and is characterized by graduation emphasizing individual inquiry and group cooperation, enforced study hours, work and community service requirements, and outreach programs in other public schools.

The Hybrid Secondary Model for secondary gifted student education discussed by Feldman and Bellis (1990) was another multiservice program model which combined acceleration and enrichment. Learning was stressed along with model components such as AP classes, honors classes, seminars, career education, acceleration within the mathematics and science curricula, the arts, and foreign languages. In another program report, Cox and Bousa (1990) described Houston's Ballou High School's International Baccalaureate (IB) program as an example of the IB program available to secondary gifted and talented students from six Royal World Colleges and 45 secondary programs in the United States. Designed to encompass grades 11 and 12, the IB program focuses on high academic achievement and international understanding.

As discussed, determining an effective delivery system for educating secondary gifted students can include acceleration, general enrichment, and grouping. A diversified approach which combines these variations in approach is IMPACT, a 33-year-old program in DeKalb County, Georgia, which serves 1,400 gifted students in 14 county high schools (Johnson, 1984). Emphasis is on enriching a gifted student's subject area of choice through independent study. Another Georgia secondary program for the gifted student was discussed by Furst (1982). Georgia's Governor's School Program is an option which brings together both bright students and teachers for a summer residential program offering intellectual opportunities beyond those available in the regular high school curriculum.

Connel (1985) and Campbell (1981) articulated the need for continuing collaboration between gifted high school students' teachers and college professors. In this regard, Harnett (1981) discussed Project Advance, a cooperative effort between college and secondary programming for students at Syracuse University. Through Project Advance, 17 high schools in New York, New Jersey, Massachusetts, and Michigan offer 4,000 students college-level coursework (pp. 4-5). These courses are taught by specially-trained high school teachers and college credit is awarded to the students when they graduate from high school.

In a similar report, DeBruin and Schuff (1987) discussed a cooperative effort for gifted science students in Toledo, Ohio. College-level scientific research opportunities are made available for gifted students in Toledo at hospital research facilities coordinated by the district school system.

Whether or not acceleration causes maladjustment or social problems is a concern for educators of the gifted. In most cases, accelerated students are comfortable with their intellectual peers and do not demonstrate antisocial maladjustment or nervous disorder. (Kohn, Fox, 1979, Stanley, 1978). Karnes and Gaudin (1982) reported that acceleration can remove boredom, frustration, and disengagement with enhanced motivation and improved self-concept. However, a 1980 score on the Scholastic Aptitude Test from an adolescent who is highly motivated academically and comfortable with adult way is more valued for the demands of a college life than an 18-year-old high school graduate with lower intellectual interests (Gregory, 1984, Stanley, 1978).

Gregory and Smith (1981) discussed the early entrance program at California State University at Los Angeles (CSULA) called PACE (Pre-Accelerated College Entrance). Gifted high school students are invited to enroll in courses for college credit after regular school hours and during the summer. Some students may enter CSULA's Early Entrance Program early and are selected for intellectual, social, and emotional benefits. According to Gregory and Smith (1981), "there is now more than enough data on the results of early college entrance to establish that this is a systematic, feasible, and cost-effective method for meeting the needs of highly selective adolescents" (p. 15).

Grouping

In addition to acceleration, enrichment, and grouping, a program for gifted and talented students at the secondary level should include

an affective component. Bellack (1987c) noted that counseling gifted students is too often a limited curricular reaction for the high school gifted population. Many gifted and talented adolescents feel isolated from a democracy-oriented society because of their age-mates who feel intimidated by their more adult-like abilities (Gardner, 1979) as a result of the gifted students' feelings of isolation and social frustration, problems may arise in the area of social isolation which require assistance from school counselors. In this regard, Herr and Bettsdale (1976) concluded that many gifted adolescents have an identity crisis about who they are and what they should become. As a solution to the problems faced by gifted adolescents in the areas of identity crisis, social isolation, and dilemma about their future, Bellack (1987c) recommended educational counseling.

Jones and Parker (1980) indicated that the gifted student sometimes has a better conscious than social self. Higgins and Higgins (1976), however, indicated that gifted students have better self-concepts than regular students. Development of a healthy self-concept is a means of promoting higher school achievement (Hesse, 1977). Counselors need to be alert to self concept problems in all adolescents including those who excel on an academic level.

Issues in the affective aspects of the gifted and talented youth have been reported (Altman, 1961; Burke, 1961; Boushnick & Powell, 1961; Parsons, 1948; Parsons & Chen, 1962; Powell & Haden, 1962). The gifted adolescent, like any other adolescent, wants to fit into society and understand how to achieve that goal (Boushnick & Powell,

[81] In a study by Furman and Chen (1981), six personality dimensions were listed for gifted students as possible areas requiring greatest need for affection development by assistance. The six areas were as follows: divergent behaviors, poor orientation, lack persistence, interruption, social awareness, and social effectiveness. Furman and Chen speculated that attention to these six personality dimensions could help gifted and talented adolescents come closer to reaching full potential.

In a related discussion, Altman (1980) presented six sources of stress which characterize gifted students: advanced cognitive functioning, older peer contacts, early language competence, earlier onset of developmental stages, rapid progress through developmental stages, and an awareness of being different. To assist gifted students and their teachers overcome the behavioral difficulties associated with their stress, Altman presented a research model emphasizing self-concept, peer and adult interaction, and community adjustment.

Curriculum strategies implemented in the curriculum for gifted and talented students can encourage positive affection growth. Values clarification exercises, for example, assist gifted students in deriving into their feelings and beliefs (Hansen, Buss, & Kerschbaum, 1971). Foshier (1980), in another approach, provided a list of suggestions for the creation of an affective, more humanistic curriculum for the gifted student. In this approach high school students are encouraged to participate in community-oriented projects for needs. For example, it is suggested that students become involved in assignments

of project centers, hospitals, and in community activities involving management of the environment, ecology, and pertinent social issues.

Group counseling strategies in the public high school for gifted adolescents are an option for effective programming presented by Allen and Fox (1979). They discussed gifted students' needs for counseling within a group as opposed to an individual context. In a related approach, Colangelo and Pflieger (1977) discussed the Bateman and Galanter Laboratory in Madison, Wisconsin. The laboratory functions as a research service center to serve educators of gifted adolescents in their quest for counseling strategies.

Barnes and Charvin (1987) discussed the responsibility of the school counselor as being the key individual to the gifted adolescent for promoting educational alternatives. College level competition, which, is an alternative which can provide substantial affective as well as learning benefits to the gifted student (Korvet (Korvet, 1988). Such a program promotes self-confidence as well as developing divergent thinking and information processing skills.

Recognizing through self-understanding the potential of being gifted is a direct toward understanding the complexity of career choices available to gifted adolescents. Watson (1981) noted the complications that arise when trying to select a career from many alternatives. Appropriate career counseling is relative to gifted adolescents for appropriate career selection.

Vocational guidance for gifted and talented individuals is a "sub-topic within a sub-topic" (Bellisle, 1989, p. 8). Identifying

gifted students and gifted programming is usually determined when addressing bright children but "vision is the issue of career education discerned as a vital component in the life education of gifted individuals" (Bellevin, 1982, p. 4). Gardner (1974) believed career education, to be relevant for secondary gifted students, must deal with each student individually. Because of this need for individuality, career education has come on entering gap in secondary education.

The work-study concept for the gifted is a means of filling the vocational education gap and needs individualized and emphasis (Bellevin, 1982). Mentorships, for example, comply with this work-study concept and not, at the point, explore and experiential in being a total learning experience (Gardner, 1982). Enriching the already developed talents of gifted high school adolescents was discussed by Kline (1982), she suggested that the high school can utilize gifted students as teaching interns or assistants and thereby use their existing skills to contribute to the development of the total school curriculum.

The need for appropriate career education for the secondary gifted population best functions when it becomes a cooperative effort among the school district, the community, and the working world (Bellevin, 1982). Kline (1982) and Strong (1982) repeated the Hout and Roberts (1974) definition of career education as a total effort of public education and the community to alert all individuals of the value of a work-oriented society so that work becomes both meaningful and satisfying.

Application of field experience and mentorship as the key to a successful career option for secondary gifted students is described by Klenkowske and Strong (1981) in Project Career (Career Awareness, Research and Exploration for Executive Readiness). At the same implies, the projects offer the advanced student a four-stage program for career exploration from awareness to mentorship in an executive readiness.

Competition which is motivational and academic was reported by Strong (1982). Intended to determine the advanced students who qualify for further study in engineering, the TERC program provides academic competition at the high school level with a career guidance objective intended to interest qualified students in engineering at the college level. Florig (1982) discussed gifted curriculum from a vocational approach, also discussing programs which were experimental in nature. A minor career exploration program for disadvantaged gifted high school students, the Professional Career Exploration Program for Minority and/or Low Income Gifted and Talented Students, was discussed by Morris (1983). The program was created as a community exploration program for black students.

The field trip option to expand gifted curriculum within a traditional educational environment was discussed by Anderson (1982), who reported one-day field trips arranged from a career perspective. Gifted students were permitted to work with a professional specialist in an area of career interest. Gifted programming with a career implication was also discussed by Green (1982) with the Experience-Based Career Education (EBCE) program used with gifted and other special

populations. Overcoming the objections to gifted placement in vocational programs was discussed by Cohen, Richards, and Berkus (1982). They discussed the Texas A&M program which trains vocational educators to develop curricula for the gifted with a vocational emphasis. Cox and Isard (1980) emphasized the same Texas A&M program as a link between secondary schools and universities where the model program combines high school terminology with coursework on the university campus. Johnson (1984) indicated gifted students' interests in high technology programs as a discussion of a survey of 14 Illinois, Illinois, high schools. Gifted students in that study indicated they would favor joint enrollment in high technology programs at two-year postsecondary institutions.

Offering appropriate exposure to gifted and talented students, to be complete, needs to include face-to-face exposure to the multitude of challenges awaiting them in their future (Deloria, 1988). Indeed, "the tasks that await students of the gifted and talented can be seen as either encouragement to be inspired or challenges to be met. Career education is one of these tasks" (Deloria, 1988b, p. 37).

Trends

Today there is a renewed interest in the education of gifted and talented students. This interest was prompted, in part, by national reports such as A Nation at Risk: The Imperative for Educational Reform developed by the National Commission on Excellence in Education (Gardner, 1984). More and more educators are becoming aware that, if gifted education is to grow and thrive, past and present programming will be interpreted in the light of future needs (Coleman,

1988, Baker & Behaver, 1989). The purpose of that session is to discuss some of the trends currently prevailing in the education of gifted and talented youth.

Evaluation of programs for gifted students is one trend which is becoming increasingly important at all levels of schooling. As discussed by Callahan (1988), the purpose of evaluating programs for the gifted youth should be not only to determine success but to determine need for program revision throughout. Carter and Hamilton (1988) concurred in their report addressing evaluation when they suggested that both process and needs should be assessed.

The use of computers in the area of gifted education is another trend receiving increasing attention. As discussed by Hecney (1988) and Swisher, Littlefield, and Crawford (1989), computer literacy for gifted students is a necessary skill in today's high technology society. Gaser (1988) pointed out that computer education for gifted students allows for the independent learning style most gifted students prefer. In a related study Swisher, Swisher, and Krasnowski (1987) investigated the effects of microcomputer assisted instruction upon high intellectual ability students. Results indicated that computer-assisted drills for gifted students were effective means of delivering content as well as increasing computer literacy.

Identification of minority gifted students is a third area open which much attention has been focused. The development and use of the Kaufman Assessment Battery for Children (K-ABC) as an instrument for assessing giftedness in minority children was discussed by Kaufman

(HAC). Students not formerly identified as gifted through standardized IQ tests are being diagnosed for inclusion in gifted programs through the use of the HAC. Instruments such as the HAC have assisted in broadening the definition of giftedness. In a related study, Bassili's Broadband Broad Model was used in identifying learning disabled/gifted students (Dow, 1994).

The expansion of gifted education into rural areas is discussed by Lapham (1994) as now a reality. Formerly, many gifted students in rural areas were not being served effectively due to lack of resources, experienced teachers, and appropriate facilities. In that regard, Miller (1997) reported that schools and colleges must work cooperatively so that minority students can be adequately prepared for participation in higher education. Programs documented which identified promising high school students to enter elite-level advanced studies were those initiated by Indiana University Northwest and the Corp. (Indiana) Public Schools.

The challenge of educating gifted and talented students is ongoing. As reported by Feldman and Treffinger (1994), gifted students have a wide variety of needs, both short and long term. In order to meet the needs of gifted and talented students the provision of stimulating programs, competent teachers, and appropriate resources must be assessed and evaluated daily to determine use and effective results.

Skills and Competencies

Skills and Competencies of Gifted Students

Differential education of gifted and talented students has been a concern within gifted education. Teachers are confronted daily with

the challenge of educating students identified as gifted who have been placed in special classes and programs (Kortens, 1945). Programs and models must be carefully selected to fit the specific needs of gifted children. The role of gifted students is of extreme importance when considering the selection of a program or teaching model.

Several studies have been conducted which verify that gifted students tended to be extremely independent and preferred learning alone. In a study by Horner (1957), the Learning Styles Inventory and the Multidimensional Locus of Control Scale for Children were administered to 300 fourth, fifth, and sixth grade gifted and talented students in New York and Connecticut. In addition both scales were administered to 348 students from the general population. Results indicated that gifted students differ in their styles of learning from those students in the general population. Gifted students prefer independent study methods to the more traditional lecture method. This independent learning style of gifted students is also supported by an investigation conducted by Guse and Price (1968). In this study, 128 gifted students in grades four through eight participated. All subjects were administered the Learning Styles Inventory. Results showed that gifted students indicated the need for less structure, exhibited more persistence, and preferred independent activities. Findings such as those which reveal gifted students to be independent of thought are consistent with earlier studies conducted by Torrance (1960), Feldman, Treffinger, and Elias (1963), and Torrance and Olson (1967).

Among the gifted themselves, various skills and competencies have been studied which indicated heterogeneity within the gifted group. Furman, Chan, and Pritzgi (1984) administered a battery of self-report inventories to a sample of 61 elementary public school gifted and talented students. The instruments used were designed to measure affective characteristics. Results indicated that gifted students exhibited learning styles and competencies which fell into four distinct clusters all of which encompassed independent thought. Presumably, in a similar study by Furman and Chan (1982) involving gifted high school students, six clusters areas of learning skills and styles emerged.

Gifted students also tended to exhibit strong differences from normal children in their acquisition of formal operations as reported by Carter and Gensert (1981). According to the results from the Carter and Gensert investigation gifted students achieved the stage of formal operations more rapidly than their counterparts in regular education programs. In a study conducted by Kaufman (1981), 1961-1981 presidential scholars who exhibited high levels of achievement in a variety of secondary school programs and activities were surveyed. A questionnaire designed to determine current status was completed by each of the subjects. Results showed that the majority of the subjects continued a high level of achievement in postsecondary education as well as job status.

Although gifted students as a group share certain skills, learning styles, and competencies, McDaniel, Myers, and Frankill (1982)

discussed variations in comprehension among gifted students.

Creatively gifted students possess certain skills which may not be fully developed in verbally gifted students. Verbally gifted students may possess certain competencies lacking in mathematically gifted students. Schmidt et al. caution educators to be aware of the differences as well as the similarities.

Personality characteristics of intellectually gifted secondary students was the topic of a study conducted by Gillies (1983). Forty-three high school gifted students and 48 high school regular education students were administered the Junior-Senior High School Personality Questionnaire (JSPQ). Results indicated that gifted students preferred to be self-directed, more persistent, and self-sufficient. Females were shown to be significantly less emotionally stable, individualistic, and composed than males.

It would appear from the findings of the studies discussed in this section that gifted and talented students exhibit qualitative differences concerning skills, competencies, and learning styles. A wide variety of programs and courses should be made available to meet these differential needs. In particular, it is important to determine whether teachers of gifted students require specific skills and competencies to effectively deliver the services in question.

Skills and Competencies of Teachers of the Gifted

The determination of skills and competencies possessed by effective teachers of gifted students should be of national importance in educators involved in the area of gifted and talented. Knowledge of the particular

skills and competencies required by teachers of gifted students either for the implementation of successful programming and revision, where needed, of teacher training curriculum. Although there exists a lack of research available on this area, children are being identified early and placed into programs for gifted students because their needs cannot be met through regular education programs (Bishop, 1981; Berman, 1991; Kessler et al., 1994).

Differential education for gifted students implies differential skills and competencies for the teachers of these gifted students. As reported by Burkett (1981), in a study involving 179 academically gifted students in grades 3 through 12, it was found that academically gifted students prefer teachers who exhibit certain behaviors and skills over teachers who do not. Students completed the Preferred Instructor Characterization Scale (PICS). Results indicated that academically gifted students preferred teachers with a high level of cognitive-intellectual ability. In a related study, Molitor (1994) used the TIE Challenge Model to facilitate interaction between gifted students and their teachers. The TIE Model has been developed over the years by incorporating a variety of program alternatives for gifted students. As discussed by Molitor, teachers of gifted students chosen to participate in the TIE program demonstrated the following skills and competencies:

1. an understanding of, and a sensitivity to, giftedness;
2. a knowledge of the total school curriculum;
3. a flexibility in reacting to the vast abilities and learning styles of the students;
4. a commitment to individualized instruction;
5. an ability to act as a facilitator in academic and foster the child-centered learning process.

4. a sensitivity and respect for the needs of the individual as well as her/his interests and strengths,
5. a high amount of energy, enthusiasm and excitement over learning and creating,
6. an understanding of the various thinking processes and an expertise in creating an attitude to encourage them,
7. a curiosity, and
8. an understanding of the creative impulse. (p. 110)

Another investigation specifically designed to analyze teacher competencies was that conducted by Bishop (1988). Approximately 181 academically gifted high school students who participated in the First Annual Governor's Honor Program in Georgia were surveyed to determine what the students considered to be competencies of intellectual and affective teachers. Teachers who displayed high intelligence, high achievement, and high creativity among other qualities were identified as expert teachers by the 181 academically gifted students polled. Bishop further suggested that teachers placed with gifted students "should possess those qualities which are common to the gifted group" (p. 109).

Recently, Serinus (1991) developed a graduate program for teachers of gifted students which was designed to assist in training teachers of gifted students. In addition to basic courses such as "Introduction to Gifted Education" and "Identification of the Gifted," Serinus suggested inclusion of courses with content in research in gifted education, how to teach process for process development, and organization and logistics of delivery of special services to the gifted. Emphasis in Serinus's curriculum would focus on content rather than technique. Additional models for training and/or certifying teachers of gifted students have been reported by Kagan and Parker (1987), Fleming and

Wolcott (1983), and Bell (1983). Each of these authors, through unique in their individual approaches, emphasized the need for specific skills and competencies relevant to teachers of gifted and talented students. Both skills as allowing for the individuality of the student, flexibility of ideas and high achievement on the part of the teacher are deemed essential. Rogers (1983) discussed teacher skills and competencies from within a process framework. That is, teachers of gifted students should be required to be aware of the learning process of gifted students through a metacognitive approach to teaching the gifted. Anderson (1983) reported that it is assumed that teachers of gifted children "used either special attitudes, skills, and personal qualities if they are to respond successfully to the challenge of raising and educating such children" (p. 137). Anderson suggested that among these skills should be the ability to work within a flexible, task-organized framework to effectively meet the needs of superior students. Feldman and Hunter (1984) concurred with the majority of experts in reporting that gifted and talented youth "need teachers who have aptitude for planning high quality instruction which concentrates on higher level thinking skills, recognizes concepts and principles into a coherent and meaningful structure, and creates youth in a variety of stimulating and generative learning experiences" (p. 80).

Although it would appear that teachers of gifted youth require specific skills and competencies, a paucity of empirical data-based research exists. Recently, the Florida Department of Education funded the Personnel Competencies Research Project (1985) directed by the

Department of Special Education at the University of Florida, Gainesville. The purpose was to identify and validate components of exceptional education teachers through systematic research procedures. However, the area of gifted education was not isolated. Clearly, the need to determine skills and competencies of educators of gifted students is an obvious challenge which must be accepted.

The Delphi Technique

Introduction

In the name Delphi implies, forecasting future events is a key element central to the Delphi process. The Delphi technique was designed by Helmer and associates during the early 1950s and fully refined in the 1960s. It was developed under the auspices of the Rand Corporation and intended as a device for securing group opinions regarding national defense problems (Gore & Cole, 1977; Norman & Manning, 1978).

In general, "the goal of most Delphi surveys is to collect judgments and establish consensus about probabilities of some future condition, in terms of such variables as time, magnitude and desirability" (Coleman & Baroff, 1975, p. 41). As a forecasting tool, the Delphi technique is one of several available to researchers (Full & Hopkins, 1978). One of the Delphi in educational planning is particularly is considered to be a most scientific method for predicting future events (Jude, 1971; Warner, 1973).

Educational Application

Since the conception of the Delphi technique, a number of more major uses of the Delphi method have been established in the field of education. As reported by Jude (1971), these four uses are as follows:

cost effectiveness, cost-benefit analysis, certification and computer planning, educational goals and objectives setting, consensus on values, norms, and other evaluation elements, and predetermined educational goals and objectives for the future. One of the most appropriate uses of the Delphi is as a planning tool to determine priorities based on the collective judgment and experience of a group of experts:

The task of establishing these priorities is accomplished through a series of questionnaires which summarize and consolidate the opinions of the experts. In turn, the experts are forced to rank these opinions into what they feel will be most likely to occur. It has been suggested that between three to five rounds is a sufficient number of questionnaires to stabilize ratings (Delbecq, Van de Ven, & Gustafson, 1973; Dodge & Clark, 1977).

Application of the Delphi method involves three basic underlying assumptions upon which the technique was formed. These assumptions are as follows:

1. Group judgments are superior to individual ones.
2. Anonymity brings greater reliability to the decision making process.
3. Delap pressure leads to consolidate group opinions. (Gustafson & Hall, 1973, pp. 3-4)

In recent years, the Delphi has become widely applied to a variety of problems in business, government, industry as well as education (Cypert & Green, 1971; Bailey & Weiner, 1962; Raap, 1972; Moore, 1971). The Delphi method allows for a structured communication process to take place among a select group of experts.

"Delphi may be characterized as a method for structuring a group communication process so that the process is effective in attaining a group of individuals, as a whole, to deal with a complex problem" (Linstone & Turoff, 1975, p. 15). The Delphi, as a mode of group communication, is similar in certain aspects to more traditional modes. However, the Delphi technique has two major advantages over conventional modes of group communication. First, use of the Delphi allows group members greater flexibility in terms of participation. That is, the experts may respond at their convenience. Second, the Delphi provides the expert with a greater degree of individuality and freedom from restrictions in his responses. The characteristics of the Delphi as it compares to more traditional group communication modes are presented in Table 3 (Linstone & Turoff, 1975). For disambiguation, the authors distinguished between Conventional Delphi, as utilizing traditional pencil and paper format, and Real-Time Delphi, which makes use of computer techniques.

Although the Delphi technique is appropriate for use in a wide variety of cases, certain limitations should be considered. Criticisms of the Delphi include those leveled by Horvath and Siegler (1970) who indicated a degree of ambiguity is involved in both the questionnaires and subsequent responses. Horvath (1970) reported that the Delphi is not based on a theoretical foundation, however, Linstone and Turoff (1975) have since provided such a framework.

In general, the Delphi technique has been used successfully in the forecast of future events in business, technology, and education (Cyphert & Crank, 1970; Holmsten, 1982). As a research method, it

Table 3

Strong Communication Theories

	Constructs to Explain (tel.)	Constructs to Explain	Process or System	Constructs to Explain	Result to Explain
Effective group size	Small	Small to medium	Small to large	Small to large	Small to large
Occurrence of disruption by subclusters	Consistent with group	Consistent with group	Consistent with group	Small	Small
Length of disruption	Short	Medium to long	Long	Short to medium	Short
Number of disruptions	Multiple, as required by group	Multiple, necessary time delays between	Small	Multiple, necessary time delays between	Multiple, as required by individuals
Signal rate range	Equality to disrupt control (Chaotic)	Equality to disrupt control (Chaotic)	Preparation (disrupt)	Equality to disrupt control (disrupt)	Equality to disrupt control as group control and no action (disrupt)

Table 1 --(Continued)

	Conference Technology Call	Connective Modeling	Formal Specifications or Analysis	Componental Delays	Real-Time Delays
Performance Predictability	Communications	Second Indirections: none	(Formal) Communications: none	Message rates Critical Sequential	Communications Component Complex enough
	Time-sliced communications	Formal delays		Formal delays	Time-sliced communications
Other Characteristics	Formal flow of information to from all Can maintain psychological effects	Formal flow of information to and from all Can maintain psychological effects	Efficient flow of information from the no way	Formal flow of information to and from all Can maintain psychological effects (or minimum time bounded of independents of context)	

(Adapted from Martin & Toroff, 1973, pp. 1-10)

future experts in the field to think about the future in more complex ways than usual.

The future of education is uncertain. Its very historical particularization is being questioned. We can predict that uncertainty that about, their concern with the future increases proportionately. Therefore, it is inevitable that more of the future be taken into account, but it is only through thoughtful study of Horowitz and Horowitz' thesis that it can be taken into account reasonably. (Benson, 1971, p. 271)

Summary

Within secondary education, there is a need for increased special education programs (Horowitz & Lewis, 1979; Marston, 1971a). Davidson (1980) concurred, adding that one-fourth of the 15-16 year olds enrolled in school would prefer not to be. Solutions for the improvement of the best methods to employ in the education of the secondary student is impeded by a lack of research (Smith & Payne, 1980).

A contemporary concern within special education in the 1980s is for secondary students who are gifted and talented. Their programs are the least recognized of all exceptional education programs (Gardner, 1980). Martini (1979) emphasized a concern for the appropriate education for gifted and talented students stating that they cannot succeed to maximum potential without appropriate individualized programming.

Some of the regular programs which require changes for gifted learners are those focusing on curriculum content, skills in productive thinking, and modifications of the learning environment (Clark & Gallagher, 1985). Martini's (1979) Enrichment Triad Model, Feldhusen's Three-Stage Enrichment Model (Feldhusen & Kelluff, 1978, 1980), Koser's

Taxonomy of Educational Objectives (Bloom, Englehart, Furst, Hill, & Krathwohl, 1964), and Posner's (1987) Creative Problem Solving Model are among the teaching-learning construction models discussed in the literature to provide basis for differentiated learning experiences for gifted students.

Acceleration, enrichment, grouping, and counseling are major categories of secondary curriculum organizations for gifted and talented learners. Advanced placement coursework, grade skipping, talent search programs, taper Saturday, academic competitions, and workshops were discussed as particular change options for secondary students who are gifted or talented. Computer education (Dowling, 1980), serving rural gifted students (Lapinowich, 1984), and increased cooperation between school districts and colleges and universities, especially in preparing black secondary students for higher education (Nelson, 1982) were noted as future areas of emphasis in gifted and talented student programming.

Gifted and talented students exhibit qualitative differences concerning skills, competencies, and learning styles. They indicated, however, that they prefer teachers with a high level of cognitive-intellectual ability (Garhart, 1980), as well as sensitivity, flexibility, commitment to good achievement, high energy, curiosity, and an understanding of the creative impulse (McIlwain, 1984).

The role of secondary education is unclear. Moreover, the curriculum in many secondary schools may not be suitable for many secondary exceptional students (Bellmunt & Brown, 1980). In addition, researchers have expressed the need for improved teacher preparation

in secondary schools (McIsaac & Brown, 1933). Gifted programming, as well, must reach a point of saturation by establishing appropriate program goal-setting, evaluation, and attention to teacher education (Gottner, 1983). The future is of the essence in planning programs for gifted students if these programs are to become permanent features of the overall educational curriculum (Munich et al., 1988). Identifying future targets is, with possible through the use of the Delphi technique, successfully employed to forecast future events in both industry and education (Cyphert & Grant, 1975). There is no substantial literature describing future gifted and talented student programming needs, and student and teacher skills and competencies in delivering these programs. This study was intended to fill that gap.

CHAPTER III METHOD

The purpose of this investigation was to identify curriculum and programming needs for gifted secondary students in public schools over the next decade, to identify the skills and competencies required by gifted secondary students and their teachers for appropriate instruction in these programs, and to determine to what extent these programming needs and competencies are perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the State of Florida. To fulfill this purpose, data were collected in two phases from educational personnel involved in gifted education at the national level and in the state of Florida. Chapter III contains a description of the methods used in preparation for and implementation of each phase of the study. To facilitate presentation of this information, the chapter has been divided into four sections: sample selection and participants, development of research instruments, procedures, and treatment of the data.

Sample Definition and Participants

The target population for Phase I was national experts from throughout the United States who design curriculum and programs for gifted students. A review of lists, journals, and monographs for

Literature contributing to gifted education published between 1975 and 1981 was used to identify the expert participants in the study. Books and articles written by or about gifted educators were examined for their contemporaneity and representation of gifted perspective. Bibliographies and references lists of each book or article were then examined. Originally, 22 educators in the field of gifted education from throughout the United States were identified by the researcher as experts based on their having met the following criteria:

1. Numerous publications—the number of professional articles published in refereed journals exceeded 20.
2. Substantive presentations—the number of papers presented and/or addresses delivered to professional institutions, symposiums, and/or conventions nationally and internationally exceeded 10.
3. Organizational visibility—the number of organization affiliations (as authors or fellows) and/or the positions of leadership held in organizations or councils in the area of gifted education and/or the positions held on editorial boards of scholarly publications exceeded 20.

Each of the 22 identified experts was mailed a packet which contained the following: (a) cover letter requesting participation in the study, (b) reply form on which to record responses to the three questions investigating diverse gifted programs and the number and student skills needed in these programs, and (c) a postage-paid return

envelopes. (Letters and instruments used in the Delphi study can be found in Appendix A.) Experts were asked to return the completed form within three weeks. Of the 22 experts contacted, 18 responded to the request by identifying future gifted program and student and teacher skills and competencies needed to implement these programs. Although the Delphi method has been used with research samples ranging in size from 12 to 100, consensus is that 12 is more representative with a smaller sample size, one which is not as socially (Jiang, 1977). Therefore, 18 respondents was deemed necessary as the minimum sample number for this study. All 18 national experts indicated a willingness to participate in the Delphi procedure and, although follow-up letters and telephone calls were required, all 18 experts completed the three phases of the procedure.

Determining to what extent the program needs and competencies provided by the experts in Phase 1 of the study were perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida was the purpose of Phase II. A stratified random sampling design was used to identify participants in this phase of the study. To identify administrator participants a list of all 47 school districts and their district level administrators was obtained from the Florida Education Directory, 1989-90. According to David Williams (personal communication, March 12, 1994), a state of Florida consultant for secondary education, the list of administrators was accurate and up-to-date. The list of administrators' names was organized into three homogeneous schools

with heterogeneity among schools according to the diffusion of responsibility as administrator had in a particular school district and its relation to gifted education. The three types of administrators who participated are as follows:

1. **General Administrator**--These individuals whose major responsibility was to focus upon all educational programming needs for students enrolled in both regular and exceptional education classes. The diffusion of duties of a General Administrator were diverse and covered a wide range of activities.

2. **Director of Exceptional Student Education**--These individuals whose major responsibility was to focus on the educational programming needs for students enrolled in exceptional education programs.

3. **Coordinator of Gifted Education**--These individuals whose major responsibility was to focus solely upon the educational programming needs for those students enrolled in gifted education classes. The diffusion of duties of a Director of Exceptional Student Education are less diverse and cover a narrower range of administrative tasks than those of a General Administrator but are more diverse and cover a broader range of administrative duties than those of a Coordinator of Gifted Education.

Of the 37 district level school administrators in the state of Florida, 20% were individuals in the General Administrator category, 49% were individuals in the Director of Exceptional Student Education category, and 31% were individuals in the Coordinator of Gifted Education category. The name of each administrator was placed on a

work. Cards were divided into stacks according to these General Administrator, Director of Exceptional Student Education, or Coordinator of Gifted Education designation. Ten cards were randomly selected from each stack. Ten administrators in each administrative designation were selected as the necessary minimum sample for a total of 30 administrator participants in Phase II of the study. The administrators selected (2058) were mailed a packet consisting of the following: (a) cover letter requesting participation, (b) demographic information form, (c) reply form on which questionnaire items were rated, and (d) one postage-paid envelope. Administrators were asked to forward their responses within three weeks. Four of the administrators responded within a two-week period. A follow-up letter was sent to those not responding and, within another four-week period, the total 30 administrator responses needed for the administrator sample in Phase II of the study were received. (See Appendix B for Phase II letters and instruments.)

To identify Phase II teacher participants, a list of all secondary schools in the state of Florida (and the name of their principals) which offered advanced or advanced placement coursework was obtained from the Department of Education, Tallahassee, Florida. The secretary of the DTE was contacted by Ross Johnson (personal communication, February 14, 1984), a consultant in secondary education. Each school was assigned to an administrator subject based upon the type of district level administrator employed in that district in which the school was located. For example, a school in a district where the administrator was a General Administrator was assigned to the General Administrator category.

Of the 115 secondary schools in the state of Florida which offered advanced or advanced placement courses, 125 were placed under the General Administrator category, 125 were placed under the Director of Exceptional Student Education category, and 125 were placed under the Coordinator of Gifted Education category. The name of each school and its principal were placed on a card. Cards were then divided into stacks according to their General Administrator, Director of Exceptional Student Education, or Coordinator of Gifted Education designation. Ten cards were randomly selected from each stack. Ten were selected as the necessary minimum sample to which the sample of administrators from each category participating in Phase II. The principals selected were mailed a packet which contained the following: (a) a cover letter explaining cooperation in identifying the names of three teachers of advanced or advanced placement courses in their school for the current academic year and (b) a postage-paid return envelope. Principals were asked to respond within two weeks. (See Letter to Principals in Appendix E.)

Of the principals contacted, 70% of the principals or their designees replied to the request by identifying three teachers of advanced or advanced placement courses in their schools. From each list of three names every second and third name were chosen to be included in the comparative phase of the study. If only two names were submitted, both teachers were included. If only one name was submitted, that teacher was included. If both teachers contacted from one school responded, the first response received was used so that only one response per school was used. A total of 45 teachers' names were received from all

responding principals. At least 30 teacher contacts were secured for each level of administrative diffusion of responsibility for gifted education (General Administrator, Director of Exceptional Student Education, and Coordinator of Gifted Education). This number offered an even greater approximation of the total population of teachers than the necessary minimum so that there would be 10 teachers included in each of the three administrative designations.

Teachers were mailed a packet which consisted of the following: (a) a cover letter requesting cooperation, (b) demographic information forms, (c) reply form on which questionnaire items were rated, and (d) one postage-paid return envelope. (See Appendix B for questionnaire used in Phase II.) Administrators and teachers were asked to complete their ratings on the same questionnaire generated by the experts in Phase I of the study. Teachers were asked to respond within three weeks. By the end of three weeks, 21 of the 30 requested teacher demographic information forms and questionnaires had been returned, a response rate of 70%. Follow-up letters to individuals who had not returned their information sheets and questionnaires resulted in the receipt of the remaining nine responses required to achieve maximum sample amount. (See Appendix B for Follow-up Letter to Teachers.) This process resulted in the receipt of the 30 teacher responses needed for the completion of Phase II of the study.

The design of the study resulted in a group of 30 national experts in the field of gifted education responding to a multiple-round Delphi.

survey in Phase I. In Phase II, six equivalent groups of administrators and teachers in the state of Florida responded to survey information taken from the questionnaires developed by the experts in Phase I. The six equivalent groups of administrators and teachers were assigned to subjects as follows:

		Type of Personnel	
		Administrators	Teachers
Level of Education	Counsel Administrator (Level I)	n = 30	n = 30
	Site Director (Level II)	n = 30	n = 30
	Gifted Coordinator (Level III)	n = 30	n = 30

Specific information on the groups of participants in Phases I and II is presented in the next two sections.

Phase I Participants

A total of 30 experts in the field of gifted education participated in Phase I of the study. A comprehensive examination of their contributions to gifted education within the areas of publications, scholarly presentations, and organizational involvement is as follows:

1. Published publications: The 30 experts had an average of 133 published articles in journals such as Journal of Educational Statistics, Journal of Special Education, Exceptional Research and Perspectives (Doverdale), Major Studies, Gifted Child Quarterly, American Educational Research Journal, Exceptional and Psychological Measurement, Review of

Measurement Research, Phi Delta Kappan, Journal for the Education of the Gifted, College Board Forum, The Journal of Experimental Education, Urban Education, and Journal of Educational Research. Documentation of excellence in research for these experts within the area of publications also included an average of 47 authored or co-authored books, book chapters, book reviews, monographs, and statistical letters to editors.

2. Scholarship presentations... The 18 experts delivered addresses and/or presented papers at an average of 41 professional conferences, symposia, and/or assemblies nationally and internationally, such as the American Psychological Association, the American Educational Research Association, Conference on Gifted and Talented Students, the National Society for Programmed Instruction, the American Psychological Association, the International Conference of the Council for Exceptional Children, the National Council on Measurement in Education, the International Congress of Applied Psychology, the National Association for Gifted Children, the Creative Problem Solving Institute, the International Society on Gifted Education, and various state and regional associations for the gifted. Six experts delivered an average of three keynote addresses at conferences such as Inception 2000 in South Africa, at various state associations for the gifted, and at conferences sponsored by various universities throughout the world. In addition, the 18 experts conducted an average of 12 workshops or directed summer courses and/or programs for school administrators, teachers, and parents.

1. Organizational viability: The 18 participating experts were members of at least seven professional organizations such such as the National Association for Gifted Children, Council for Exceptional Children, American Association for Gifted Children, Association for Supervision and Curriculum Development, World Council for Gifted and Talented Children, and What We Is Learning. Many of the experts were fellows or organizations such as the American Statistical Association and the American Psychological Association. Several had held positions of leadership such as the role of president, honorary director, member of the board of directors, chairperson of committees, and members of executive committees in organizations such as the American Psychological Association, National Association for Gifted Children, and the World Council for Gifted and Talented Children. The experts, in addition, showed the following evidence of national activity in the area of organizational viability: they participated in the drafting of an average of 12 research and/or training grants, all had served as educational consultants on the education of the gifted and talented and on curriculum development and policy standards, all had been honored as recipients of both distinguished scholar awards and certificates of recognition for contributions to the gifted and talented, and all had been either editors, associate editors, consulting editors, book review editors, or members of the editorial board for publications such as Gifted Child Quarterly, NSPE Bulletin, NSPE Newsletter, Harper Review, The Education Psychologist, and Journal for the Education of the Gifted.

Phase II Participants

The participants were 30 administrators and 30 teachers from three different types of administrative districts throughout the 27 counties in the State of Florida. Of the total 30 administrators, 16 were female and 14 were male. Of the 30 administrators, 17 were white and 1 were black. Their ages ranged from 34 to 63. They possessed a wide range of certification areas including administration, English, math, science, art, home economics, and physical education. Before becoming administrators, 18 of the 30 taught in the classroom from 2 to 22 years. Demographic characteristics of administrators by level of administrators' responsibility for gifted education are presented in Table 4.

Of the 30 teachers selected, 24 were female and 6 were male. Of the 30 teachers, 17 were white and 3 were black. Their ages ranged from 26 to 63. Years of teaching experience ranged from one to over 18. Certification areas included English, math, science, social studies, home economics, music, business, and exceptional student education. Of the 30 teachers, 16 taught in secondary schools in which, including themselves, there were less than 4 advanced/advanced placement teachers employed. Twenty-five of the 30 teachers taught in schools in which the total student enrollment ranged from 1881-2585. Demographic characteristics of teachers by level of assignment to administrators' responsibility for gifted education are presented in Table 5.

Table 2

Demographic Characteristics of Administrators by Level of
Administrative Responsibility for Public Education

Variable	Level I n=18	Level II n=18	Level III n=18	Total n=54	
<u>Sex</u>					
Male	5	4	5	14	47%
Female	13	14	13	40	13%
<u>Age</u>					
21-30	0	1	1	2	7%
31-40	1	6	4	11	20%
41-50	4	7	3	14	26%
51-60	8	7	5	20	37%
61-70	5	7	5	17	31%
<u>Race</u>					
Black	2	4	5	11	20%
White	16	14	13	43	80%
<u>Years in Public Sch.</u>					
0-4	3	4	4	11	20%
5-12	3	7	6	16	30%
13-19	4	7	5	16	30%
Over 20	8	10	14	32	60%
<u>Years Teach. Exp.</u>					
0-4	3	7	6	16	30%
5-12	3	7	6	16	30%
13-19	4	7	5	16	30%
Over 20	8	10	14	32	60%
<u>Credit Hours in</u> <u>Public Education</u>					
0	4	3	3	10	19%
1-3	3	3	4	10	19%
4-6	8	3	1	12	22%
7-9	5	7	4	16	30%
10-12	3	8	6	17	31%
Over 13	5	10	9	24	44%

Table 4--Continued

Variable	Level I n=10	Level II n=18	Level III n=18	Total n=46	
Number of Students Enrolled in Classes					
Less than 2000	4	0	0	4	13%
2000-25000	1	0	0	1	30%
25000-50000	3	0	0	3	7%
Over 50000	2	0	10	12	60%
Number of Semesters in Classes					
Less than 50,000	3	7	0	10	10%
50,000-100,000	4	3	1	8	20%
100,000-150,000	0	0	3	3	10%
150,000-200,000	0	0	3	3	7%
Over 200,000	1	1	4	6	20%
Distance per Mile Enrolled per					
Less than \$1000	1	0	0	1	30%
\$1001-2000	3	3	3	9	30%
2000-3000	3	3	3	9	17%
3000-4000	0	3	3	6	20%
Over \$4000	1	3	0	4	7%
Number of National Merit Finalists					
None	3	3	0	6	13%
1-5	2	3	0	5	17%
6-10	3	3	0	6	20%
11-15	0	3	0	3	17%
16-20	0	0	3	3	7%
Over 21	0	0	0	0	20%

Table 7

Demographic Characteristics of Teachers by Level of Assignment to Administrator's Responsibility for Gifted Education

Variable	Level I n=10	Level II n=20	Level III n=18	Total n=38	
<u>Sex</u>					
Male	4	3	1	8	20%
Female	6	7	8	24	60%
<u>Age</u>					
20-30	3	1	0	4	10%
31-35	2	1	2	5	10%
36-40	1	2	7	10	25%
41-45	1	8	0	9	25%
46-50	1	3	0	4	10%
51-55	0	3	0	3	10%
56-60	2	8	0	10	25%
61-65	0	8	1	9	25%
<u>Race</u>					
White	1	8	0	9	25%
Black	8	8	10	26	68%
Hispanic	8	1	0	9	25%
Other	1	8	0	9	25%
<u>Years Teaching Exp.</u>					
<u>Administrative Experience</u>					
1-4	1	1	3	5	13.16%
5-10	4	2	4	10	26%
11-14	1	1	0	2	5.26%
Over 15	1	4	8	13	33%
<u>Credit Hours in Gifted Education</u>					
None	8	1	5	14	36%
1-3	0	1	2	3	8%
4-6	0	1	1	2	5%
7-10	1	1	1	3	8%
11-15	0	2	0	2	5%
Over 16	0	0	1	1	2%

Table 3--(Continued)

Variable	Level I n=12	Level II n=10	Level III n=10	Total n=32	
<u>Total Student</u>					
<u>Students Enrolled</u>					
Less than 100	1	0	0	1	3%
101-1200	2	0	1	3	9%
1201-1500	2	1	2	5	16%
1501-2000	1	1	1	3	9%
2001-2500	2	2	4	8	25%
Over 2501	1	0	0	1	3%
<u>Number of Advanced</u>					
<u>City Placement</u>					
<u>Full-time In School</u>					
Less than 5	1	0	1	2	6%
5-10	4	2	2	8	25%
11-15	1	1	2	4	13%
Over 15	2	0	0	2	6%

Instrumentation

The research instrument used in the study was developed by experts who participated in the Delphi technique in Phase I. The same instrument was completed by administrators and teachers in Phase II for comparative purposes.

Phase I Questionnaire

The primary goal of Phase I was to use a Delphi technique (Jasp, 1976) to collect survey information from a panel of national experts in the field of gifted education. Information in three areas was sought: (a) the future curriculum and programs which should be developed in the next decade to provide appropriate programming for gifted secondary students, (b) the skills and competencies gifted secondary students will need to successfully complete these programs, and (c) the skills and competencies teachers of gifted secondary students will need to successfully deliver these programs.

Phase II Questionnaire

The goal of the second phase of the study was to obtain, from administrators and teachers in the state of Florida, a measure of the extent to which their responses were similar about the importance of future gifted programs and the student and teachers skills in those programs which were defined by the experts in Phase I. The same questionnaire developed and utilized by the experts in Phase I was used for comparative purposes in Phase II.

7. Instruments

Phase 1: Preinclusion

After obtaining the names of the 22 national experts as described previously, packets for Round 1 of the multiple-round Delphi procedure were prepared for each expert. Each packet contained (a) a cover letter, (b) three open-ended questions investigating future programs, student skills, and teacher skills, and (c) a postage-paid return envelope. The packets were mailed directly to the 22 national experts. Of the 22 experts contacted, 7 returned completed Round 1 questionnaires, a response rate of 32%. Follow-up letters and personal telephone contact to individuals who had failed to return their questionnaires by the specified deadline resulted in the return of three more responses, bringing the total response rate on the Round 1 instrument to 35, the required minimum sample.

Responses to the first round of questionnaires were recorded as they were received. Approximately two weeks after the return deadline, responses were added to avoid duplication. For example, if one or more of the experts submitted the same response, the response was listed one time only on the subsequent Round 2 and Round 3 questionnaires. Responses for each question were arranged typewritely for purposes of organization and clarity. In Round 1, 164 content items were generated by the experts for the three questions central to this research. After editing and arranging, these 164 content items were grouped to aid respondents in subsequent rounds. For example, opinion of curriculum and program was grouped into the following four subareas concerning

items of similar form: core courses and programs, specialized courses and programs, off-campus courses and programs, and support services for courses and programs. Opinions of skills and competencies for students was grouped into the following three subjects: skills needed by students, knowledge needed by students, and personal characteristics needed by students. Expert opinions of teacher skills and competencies was grouped into four subjects: skills and competencies needed by teachers, knowledge needed by teachers, experience needed by teachers, and personal characteristics needed by teachers. Important domains were represented within each subject and included the following:

1. core courses and programs was grouped under the three domain clusters of academicians, work-based, and multiple opportunities,
2. specialized courses and programs was grouped under the three domain clusters of creative, productive thinking, and cognitive,
3. off-campus courses and programs was grouped under the two domain clusters of acceleration and enrichment,
4. support services for courses and programs was grouped under the domain clusters of affective and administrative,
5. skills needed by students was grouped under the three domain clusters of critical thinking, research/writing, and communication,
6. knowledge needed by students was grouped under the two domain clusters of academic and personal,
7. personal characteristics needed by students was grouped under the two domain clusters of academic and personal,

8. skills and competencies needed by teachers was grouped under the three domain clusters of professional qualities, classroom teaching, and human relations.

9. knowledge needed by teachers was grouped under the three domain clusters of professional, academic, and attention;

10. experience needed by teachers was grouped under the domain experience; and

11. personal characteristics needed by teachers was grouped under the three domain clusters of teaching skills, personal qualities, and human relations.

Question content, content area subject, and content domain for expert opinion of the importance of domain gifted education and progress and for student and teacher skills and presented in Table 8.

In Round II experts were mailed a packet containing the following: (a) a cover letter, (b) questionnaire form with edited and grouped item content responses described above, and (c) a postage-paid return envelope. The experts were asked to rate each of the groups' content item responses in terms of whether they felt the responses were (1) "always needed," (2) "highly needed," (3) "moderately needed," (4) " seldom needed," or (5) "never needed" as gifted programming. Approximately five weeks after the return deadline, ratings for each were analyzed in descriptive item analysis. The median was selected because of the bias reported in the most suitable manner of central tendency for this phase of the investigation using the Wright procedure (Solomon et al., 1975).

Table 3

Questions Content, Content from Subject, and Content Areas for
Expert Opinions of the Importance of Patient-Centered Communication and
Training and Student and Teacher Skills

Questions Content	Content from Subject	Content Areas
1. Factors gifted secondary curriculum and program	Core courses and program	Acceleration Enrichment Multiple options
	Specialized courses and programs	Creative Productive thinking Cognition
	Off-campus courses and programs	Acceleration Enrichment
	Support services for courses and programs	Affective Adaptation/aware
2. Skills needed by students	Student skills	Critical thinking Research/analyzing Communication
	Student knowledge	Subjective Personal
	Personal characteristics of students	Academic Personal
3. Skills needed by teachers	Teacher skills	Professional qualities Classroom teaching Human relations
	Teacher knowledge	Professional Academic Affective
	Teacher experience	Experience
	Personal characteristics of teachers	Teaching skills Personal qualities Human relations

In Round 113 experts were mailed a packet containing the following: (a) a cover letter, (b) questionnaire form with five medium and individual ratings if they differed from the median by more than one, (c) discussion sheet in which to explain their individual rating if they chose to maintain it over the median, and (d) postage-paid return envelope. (See Appendix A For all Phase I Instruments.)

The third round questionnaire, developed from the second round questionnaire, consisted of the same lists as the second round questionnaire. In addition, the third round questionnaire included the median for each item as well as the individual expert's rating if it differed by more than one. The experts were asked to explain on a discussion sheet their individual ratings if they chose to maintain their one-point deviation from the median rating. Approximately two weeks after receipt of the Round 113 questionnaires and discussion sheets a thank you note to all experts was mailed.

In Phase I the 18 experts expressed opinions about the future of gifted secondary programs based on their personal experience and level of expertise in Round 11. Ratings were generated by Round 11, while minority opinion was generated by Round 111. In reading the lists of responses and medians it is evident that a median rating was a group judgment that the responses were more likely needed to provide appropriate future educational opportunities. In turn, a larger median rating was a group judgment that the less responses were less likely to provide these opportunities.

Phase II Procedures

The purpose of this study was to identify curriculum and programming needs for gifted secondary students in public schools, to identify the skills and competencies for appropriate instruction required by gifted secondary students and their teachers (Phase I), and to determine how these educational programming needs and competencies are perceived or applied by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida (Phase II). Following identification of the Phase II participants (administrators and teachers), packets were mailed directly to these individuals.

Packets contained (a) a cover letter, (b) demographic information sheets, (c) questionnaires for which to record responses, and (d) a postage paid return envelope. (See Appendix I for Phase II questionnaires.)

Phase II of the study involved the use of the second III questionnaire as developed in Phase I by the panel of experts, but without the median ratings. The third round questionnaire was mailed to the district level administrators and teachers of gifted secondary students. The sample of district level administrators was organized into three homogeneous subsets with heterogeneity among subsets as discussed previously. Each type of administrative group was based on the diffusion of responsibility as administrators had in a particular school district and its relation to gifted education. The total number of administrators in the sample was 18.

The sample of secondary gifted teachers was organized into the same three subsets as the administrators. Each teacher was assigned to a subset based upon the type of district level administrator employed in that district where the teacher was also employed. Three

types of incidents were chosen to participate in Phase II and the total number of teachers selected to participate was 32.

Administrators and teachers were asked to provide demographic information and questionnaire responses as a measure of the extent to which administrators' responses and teachers' responses were similar regarding the importance of future gifted programs and the student and teacher skills and competencies needed to make those programs effective. The same instrument was completed by administrators and teachers for comparative purposes. The questionnaires reflected finalized data for the 348 content area responses generated by the panel of experts in Phase I. A comparison of the administrators' responses for selected content area groupings was made with the teachers' responses for selected content area groupings using appropriate statistical analysis. Data were analyzed using analysis of variance which is appropriate when comparing the means of two or more groups.

Treatment of the Data

Data from Phase I were recorded and edited to avoid duplication as they were returned to the researcher. Since analysis of Round I questionnaires consisted of listing and coding the 348 content area responses as discussed previously, no statistical manipulation was necessary. Analysis of Round II, however, involved finding the median of the responses for each item on the questionnaire. The median was selected as the most suitable measure of central tendency for this phase of the investigation because the questionnaire used an ordinal scale, the mean may have been influenced by extreme scores, and the

and may have been misleading in certain instances (Bollen et al., 1979). The analysis for Issue III consisted of recording individual minority opinion expressed when an expert chose to administer more than a one-point deviation from the median on any content item.

Data from Phase II were obtained from 48 subjects selected throughout the 47 public school districts in the State of Florida. Two independent variables were arranged in a 2 X 2 factorial design to compare responses of personnel operating in systems with different levels of administrative difficulty. The first factor referred to as participant level had two personnel categories represented: (1) administrators and (2) teachers. The second factor referred to as difficulty level had three levels represented: (1) General Administrators, with administrative responsibilities related to regular education, exceptional student education, and gifted education, (2) Directors of Exceptional Student Education, with administrative responsibilities related to exceptional student education and gifted education, and (3) Coordinators of Gifted Education, with administrative responsibilities related to gifted education only. Each comparison group was comprised of 12 subjects.

Dependent variables were seven rating scales reflecting opinions about the importance of work, specialized, off-campus, and support services for students and programs, the importance of skills, knowledge, and experience needed by students, and the importance of skills, knowledge, experience, and personal characteristics needed by teachers in future

gifted secondary program. An ANOVA was performed on each subject using the response means on the questionnaire as the unit of analysis. Statistical software were selected to compute mean scores and standard deviations for each of the subsets of content items. Descriptive summaries of the data and implications to be drawn from them are found in Chapters III and V, respectively.

CHAPTER 17 RESULTS

The goal of this study was to identify future curriculum and programs for gifted secondary students, to identify the skills and competencies needed by students and teachers in these programs, and to determine to what extent these programs and skills and competencies were provided as stated by administrators and teachers in their roles as delivery agents of these programs in the state of Florida. This chapter presents the results of the study. Data from questionnaires in both Phase I and Phase II were compiled and are discussed herein. The chapter is compiled of six sections corresponding to the questions formally stated for each phase in Chapter 1. For clarity, the main sections are expert opinion of the importance of curriculum and programs, expert opinion of the importance of student skills, expert opinion of the importance of teacher skills, administrator and teacher opinions of the importance of future curriculum, administrator and teacher opinions of the importance of student skills, and administrator and teacher opinions of the importance of teacher skills.

Expert Opinions of the Importance of Future Curriculum and Programs

The original questionnaire used in Phase I generated 82 various items in response to the research questions addressing specific curriculum

and programs. These 42 items were grouped into four subsets, each of which contained items of similar focus. Core courses and programs, specialized courses and programs, off-campus courses and programs, and support services for courses and programs. The important aspects given to the first subset, core courses and programs, was the first area to be addressed.

Core Courses and Programs

Expert opinions of core courses and programs, containing 22 items, was grouped under the three domain clusters of acceleration, enrichment, and multiple aptitudes. Content domain, item content, and domain rating of expert opinion of the importance of core courses and programs are shown in Table 5.

Under the acceleration domain, expert opinion placed great importance on two future programs, as evidenced by high median ratings---those with vertical acceleration options and those substituting honors courses. These two highly rated options have received majority opinions which emphasized that acceleration options and honors courses, in their format, must be individualized, unstructured, flexible, and taught at a high cognitive level.

There were four items under the enrichment domain which received above average ratings---correlation with advanced placement courses, correlation with Purdue model structure, correlation with IBT structure, and correlation with teaching units for each secondary level discipline. The enrichment domain provision of a multi-tiered program with Purdue model structure produced one minority opinion. The voter stated that

Table 9

Expert Opinions of Experiences of Core Content and Program

Content Breaks	Item Content	Median Rating
Acceleration	Curriculum with varied acceleration opportunities	3
	Curriculum with honors courses	3.5
	Curriculum with advanced placement courses	3
	Curriculum with Pacesetter Model structure	3
	Curriculum guided by IBT structure	3
	Curriculum with teaching units for each secondary level discipline	3.5
	Curriculum with International Renaissance Award	3
Enrichment	Curriculum with an updated approach to develop cognition, all disciplines	3
	Curriculum using interdisciplinary approach	3
	Curriculum stressing product development	3
	Curriculum stressing cultural heritage	3.5
	Curriculum stressing connection to one's future self	3.5
	Curriculum stressing Secondary Trial-Winner Pool	3
Multiple Approaches	Curriculum to develop total individual	3
	Curriculum in foreign languages	3
	Curriculum with homogeneous groupings	3

Table 3—Continued

Course Details	Item Content	Median Rating
	Curriculum is course prerequisites	3
	Curriculum leading to basic intellectual training	3
	Curriculum of basic disciplines for (liberal) education	3.5
	Curriculum guided by CFI Commission guidelines	3.5
	Curriculum which is student-oriented	3.5
	Curriculum with stated academic, standardized guidelines	4

that might also not work, did not include provisions for technological change, and seemed redundant. It was, therefore, never needed.

Expert opinions indicated that the international business course format as an acceleration item was average at best. Minority opinions for this content item represented the most divergent expert ratings, and never indicated the option was always needed, while another argued that this approach has not proved successful and is never needed.

Curriculum with updated approaches to develop ingenuity as major disciplines, however, was consistently regarded as successful enough to be listed by experts as the only always needed item within its area of importance represented in the enrichment domain. No minority opinions were received for this highest rated item. Of these enrichment items with strong average expert ratings, two build on an administrative format (innovation using a multidisciplinary approach and curriculum assessing product development) and two build on a sociological foundation (curriculum assessing cultural heritage and curriculum utilizing knowledge to one's fellow man). Minority opinions were generated for both types of items. One writer commented that curriculum must always stress individual rights and should not merely stress product development. The criticism given with cultural and humanitarian emphasis involved both higher and lower ratings of importance because of varied professional bias.

Professional bias also entered into multiple opinions, a core content domain in which some curriculum options were represented

The individual item in this area which received a rating of most important by 5 of the 10 experts was a core program with a curriculum for the development of the total individual. The one expert expressing a minority opinion on this item was most explicit in refusing to accept the notion existing that the item was too idealistic and unrealistic since nobody really knows how to do what this item proposes.

Seven of the nine curriculum options within multiple options were rated above average by the experts. There were curricula which have the following characteristics: homogeneous groupings, career preparedness, the basis for overall intellectual development within a liberal education, guidelines furnished by the IFE Commission, and components which are student-oriented. There were no minority opinions expressed for any of these above average ratings.

The most negative expert opinion for future programming was expressed for a curriculum with several separate standardized components. This curriculum was viewed as totally ineffective by all the experts.

In summary, despite the minority opinions noted, the majority of the experts surveyed chose to agree with the advice ratings displayed in Table B. Considered most important for the development of core courses and programs were interdisciplinary items dealing with various acceleration opportunities and the provision of honors courses, enrichment options which use updated materials to develop cognition in all discipline areas, and the multiple options curriculum which develops the total individual. Only 2 of the 23 core program options

Curriculum stressing the Secondary Trade-Income Fund and curriculum with varied academic, standardized guidelines) received average and below average ratings. High ratings for these collection opinions indicated expert agreement that the suggestions listed for core programming are likely to provide, in the proper setting, appropriate curricula for gifted secondary students.

In addition to the collective acceptance given core programming, experts agreed that gifted secondary students must select some specialized content as well. While programming options submitted in this area are discussed in the next section,

Specialized Courses and Programs

Under the specialized courses and programs subject, 19 items were grouped in the three domain clusters of structure, production, and cognitive thinking. Content domain, item content, and median rating of expert opinion of the importance of specialized courses and programs are shown in Table 18.

Experts indicated that opinions for programs placed under the cognitive domain were important enough to generate an ratings below about average. Highly respected were three program options in particular-- those with consistent creative opportunities, those with an emphasis on the development of the visual and performing arts, and those with creative problem-solving opportunities. Despite the importance given the visual and performing arts and creativity in general, minority opinions of experts indicated the emphasis on the creative aspect was held as effort to emphasize a "creative language" and that not every student needs to be even interested in creativity.

Table 10

Expert Opinions on Importance of Specialized Courses and Programs

Content Details	Item Content	Relative Rating
Creative	Programs with emphasis yet critical approach to ideas and things	1
	Programs with consistent opportunities for creativity	1
	Programs which develop visual and performing arts	1
	Programs with creative problem solving opportunities	1.5
	Programs which explore the "business"	2
	Programs with future research	2
	Programs with simulation games	2.5
Productive Thinking	Programs with stress on critical dialogue	1
	Programs offering unlimited individual options	1
	Programs with varied special activities	1.5
	Programs with leadership opportunities	2
	Programs with special editions of selected coursework	2
	Programs which stress sensitive	3
Cognitive	Programs with process (not content) emphasis	2
	Programs with studies of models	2
	Programs with 30% brainstorming	2.5

Table 18—Continued

Content Domain	Item Content	Median Rating
	Programs with concrete items	3
	Programs with computer-assisted instruction	3
	Programs with metaphorical, mechanical, and mathematical analogs	3

Building into the "curriculum," however, was given greater importance than availability. According to expert opinion, futures research and exploration into the unknown received above average ratings. Three individuals, however, saw futures research as less than above average in importance. A futures curriculum, they insisted, should be emphasized in programs only when it has been integrated into a broader curriculum with a social sciences emphasis.

The importance of simulation games was rated above average, but as a separate course, the games received two minority opinions. Three teachers stressed that these games are over-emphasized and merely distract from a regular academic format. Minority opinion emphasized a lack of productive thinking in game-like programming.

Productive thinking, per se, was stressed by experts as the second content domain under specialized courses. The domain contained six content areas. Three of them were regarded as highly important, with always needed ratings: those with stress on strategies which is critical, those with unlimited options, and those with varied special objectives. The stress stressing unlimited individualized options and programs with varied special objectives received minority opinions. Two experts kept their ratings for these two areas lower than the median, insisting that the options were undesirable and should not be substituted for a broad, high-level academic program which should already exist in secondary schools.

Above average ratings within the productive thinking domain were given to programs offering opportunities in leadership, special

ability of solving required courses, and sometimes. Consensus of ratings in this area was achieved with no minority opinions received.

Three items in the cognitive domain suggested teaching and planning strategies as part of their programming format. Programs with process (not content) emphasis, studies of models, and 301 applications were rated above average. Care must be taken, however, suggested one minority opinion, to avoid using these suggested programs as isolation from major content disciplines. Computer-assisted instruction, resource rooms, and the use of analogies in teaching the gifted were given average ratings--the lowest of any of the 12 items listed under specialized courses. Experts stated their provisions offer only temporary alternatives to dealing with regular classroom demands.

In spite of the diverse minority opinions in this section of future gifted programming, the general consensus was that these 25 curricular suggestions are viable options from a highly needed to moderately needed degree. Considered most important for future specialized coursework programming were curricula stressing creativity, critical dialogue, and varied individual options through special electives, nine of which are available through off-campus course options, discussed in the next section.

Off-Campus Courses and Programs

The off-campus options, grouped under the domain of acceleration and enrichment, were provided by the experts. Content domains, item

content, and median ratings of expert opinion of the importance of off-campus courses and programs are shown in Table 11.

Expert ratings of the importance of the four options listed under accreditation were again mostly, with two programs rated above needed (those providing university coursework and degree school options) and two programs rated above average (those with multiple off-campus experiences and residential components). Minority opinion was received for the degree school option. There was minor reservation that many school options would find this option undesirable. Off-campus experiences which are varied (rated above average) was given two higher ranking opinions. These experts accepted that the experiences are extremely important, since they concentrate, focus, and involve students in interactive, real-world experiences.

As with the accreditation domain, off-campus courses described under the enrichment domain received opinions under which half were rated above needed and half were rated above average. Experts gave high ratings to programs providing mentorships, internships, and multiple options such as summer courses. No minority opinions for any of these programs were received. Conversely, the items rated above average--apprenticeships, enrichment centers, and public service emphasis--received divergent minority opinion. One individual dissented vehemently from the median rating for the item which suggested that programs have a focus on community service. The expert defended a lower rating, noting that a community emphasis indicates a contingency

Table 11

Expert Opinion of the Importance of Off-Campus Courses and Programs

Course Details	Item Content	Median Rating
Academic	Program providing university coursework	1
	Program providing night school options	1.5
	Program providing varied "off-campus" experiences	2.5
	Program providing residential components	2.5
Extracurricular	Program providing mentorship	1
	Program providing internships	1
	Program providing multiple options (i.e., field trips, summer sessions)	1
	Program providing apprenticeships	2
	Program providing vocational training	2.5
	Program providing a public service, community focus	2.5

brainstorming effort on the part of curriculum planners and that public service should be for adults who are out of school. The same line stressing community service, on the other hand, was varied always needed by another expert who felt the element is an absolute need for gifted students to understand.

At the end of the off-campus programming options, ten experts provided summary clarifications of their ratings for all programming options within core courses, specialized courses, and off-campus courses. The following statement made by one of the experts is indicative of these responses:

I am very wary of the structured "curricula," "courses," and "programs." I recommend planning interdisciplinary courses that provide greatest flexibility for students and greatest intellectual complexity--but I caveat that complexity for the gifted requires not only the highest level cognitive, but also affective and ethical dimensions.

In summary, the off-campus programs having greater importance to experts were the acceleration options incorporating university coursework and magnet school options and the enrichment options providing mentorships, internships, and multiple options such as summer courses. There was controversy surrounding the topic of community service and its place in off-campus coursework.

The majority of the experts stressed, for all program options, a need for flexible, interdisciplinary coursework which can offer intellectual, affective, and ethical complexity. For a program to do as adequate support services must be discussed.

Support Services for Courses and Programs

The 11 expert opinions listed for support services for future gifted programs were grouped into affective and administrative domains. The content domain, item content, and median rating of expert opinion of the importance of support services for courses and programs are shown in table 12.

Within the affective domain, age of first stress was ranked as important—parents provision for counseling—with an minority opinion generated. These items were rated as above average in importance—provision of special tutors, self-evaluation opportunities, and the opportunity for stress reduction. Minority opinion was received for all three.

One expert ranked the special tutor item lower stating that providing special tutors for gifted students is not appropriate. Four experts indicated that self-evaluation was appropriate in contradiction to the majority. These experts indicated that self-evaluation was important for both personal and social development and was a component of perceived control which is highly correlated to achievement and success in later life. A higher median rating was also recommended by three experts for the item on stress reduction activities as well as the item recommending meditation techniques which was viewed by the majority as of average importance. These experts indicated that stress reduction and relaxation were related to the highest cognition and affective levels necessary for effective growth and that strategies to reduce tension are essential if optimal learning is to occur.

Table 12

Expert Opinion of the Importance of Support Services for
College and Programs

Content Areas	Item Content	Median Rating
Affective	Provision of counseling	1.5
	Provision of special tutors	2
	Provision of self-evaluation opportunities	2.5
	Provision of stress reduction techniques	2.5
	Provision of relaxation, meditation techniques	2
Administrative	Provision of conditions for flexibility and change	1
	Provision of administrative cooperation	1
	Provision of financial adequacy	1
	Provision of follow-up procedures	1
	Provision of early assessment and identification	1
	Provision of student involvement in planning	2

The experts challenged the stress management module for the same stress reduction and meditation given saying that stress should not be viewed as a component of gifted programs. Stress, they asserted, is not a concern within gifted programming only and should not be singled out for program options.

Administratively, five of six content issues were perceived as important to the experts as evidenced by their ratings of always needed. Providing for flexibility, administrative cooperation, financial adequacy, follow-up procedures, and early assessment and identification. Only one minority opinion was received for any of these five options. One voter disagreed with the importance afforded to built-in conditions of flexibility stating professional bias.

Expert opinion for student involvement in administrative program planning was rated stress average in importance. There were no minority opinions.

In summary, the 12 items in support services, out of a total of 41 contribution responses, can be viewed as a priority ranking of administrative services which function within the development and implementation of future programs. Those items which were given a lesser emphasis were in the areas of affective student opportunities particularly in the realm of relaxation and meditation. The skills and competencies gifted students will need to meet the demands of the future gifted secondary programs recommended by the experts in the second form of this study and is described in the next section of this chapter.

Expert Opinion of the Importance of Student Skills and Competencies

The experts in Phase I also responded to the highly quantitative generated 41 opinions for the research question addressing student skills and competencies. Nine of these 41 opinions received a rating lower than above average indicating strong expert consensus of the importance of the skills listed.

The 41 opinions about student competencies were grouped into three subjects: skills, knowledge, and personal characteristics. The topmost expert's given to student skills, the first subject, is the first item addressed.

Student Skills

Containing 18 items, expert opinion of the importance of student skills was grouped into the three content domains of critical thinking, research/writing, and communication. The content domain, then content, and rating listing of expert opinion of the importance of student skills are shown in Table 11.

Of the 18 opinions expressed for the domain critical thinking, 16 were rated as important. Individual (critical, negative, creative) thinking, problem-solving, assessing and solving, self-direction, integrated and divergent thought, decision-making, advanced comprehension-memory-evaluation, insight, critical judgment, high metacognitive skills, and "mind preparation" to turn ability into mastery. The 18th item, reflective thinking, was valued as above average in importance.

Table 13

Expert Opinions of the Importance of Skills Needed by Students

Content Areas	Item Content	Median Rating
Critical Thinking	Pro-level critical, cognitive, creative thinking	1
	Problem solving	1
	Reasoning, appraising, relating	1
	Self-direction	1
	Convergent and divergent thought	1
	Reasoning skills	1
	Advanced comprehension/analysis/evaluation	1
	Insight	1
	Critical judgment	1
	Highly metacognitive	1-5
	"Good preparation" to turn skills into mastery	1-5
Research/Writing	Reflective thinking	2
	Self-asking, self-answering	1
	Research skills	1
	High-level writing skills	1
	Scholarly inquiry	1
	Problem identification, definition, inquiry analysis	1
	Use of advanced references	1-5

Table 18 (Continued)

Domain/Domain	11th Grade	Median Rating
	Team management	3.5
	Demonstration of proficiency	3
	Product development	3.5
<hr/>		
Communication	Skills in written, oral, visual communication	3
	Special, visual, verbal, and calculation skills	3
	Creative expression beyond the verbal	3

Two of these highly ranked opinions occurred amongst opinion One voters discussed the importance of reading and valuing as a skill and said that gifted students were too sensitive already and that a distinction must be made between the education of and the psychology of the gifted learner. Another voter disagreed with the majority voting for "mind preparation" saying that the skill seemed to under-direct and not self-actualizing enough. Another voter stated the concept of "mind preparation" was confusing.

The nine student skills within the research/writing domain also reflected an expert consensus of always needed. Seven of the nine were rated as important: data analysis, research skills, high-level writing skills, subjective inquiry, problem identification-definition-inquiry analysis, use of advanced references, and time management. Documentation of proficiency and product development, the final two items, fell into the above average range of importance.

There was minority opinion expressed for three items in this grouping. In regard to problem identification-definition-inquiry analysis, one expert stated that the concept was too textbook-like with no practical application indicated. Another respondent indicated data analysis needs to be individualized to be successful. Finally, the time consuming product development to bring about audience impact frustrated two conflicting minority opinions. One voter saw the skill as simply unnecessary as an academic faculty; another felt the skill was an absolute priority.

High priority was afforded the three opinions in the communication domain as evidenced by expert ratings of always needed. The three

items given important ratings are the skills in written, oral, and visual communication, the skills in spatial, visual, and calculative areas, and creative expression beyond the verbal modality... One minority opinion was given for the last item. A rater said that the descriptive aspect of verbal expression was confusing and ill-defined.

In summary, the high median ratings of 21 of the 24 items within student skills reflected expert consensus in this area. The degree of importance reflected in the responses indicated expert opinion of the skills students should have when entering their ability to function in the programs designed to give them challenge. Student knowledge for these future programs is discussed in the next section Student Knowledge.

The 20 items generated by experts for student knowledge are here evenly divided into two content domains--scholastic and personal. The content domain, item content, and median rating of expert opinion of the importance of student knowledge are shown in Table 14.

The items in the scholastic domain were given expert ratings of always needed--memorization and recognition and insight knowledge, understanding, and insight. The second rating, insight knowledge, involved a minority opinion. One expert disagreed with the group's estimate of the item's importance stating that conceptualizing this knowledge was not too unrealistic in terms of when, where, and by whom.

Ratings of always average were given to three opinions within the scholastic domain of student knowledge--future/more education,

Table 14

Expert Opinions of the Importance of Knowledge Needed by Students

Content Areas	Item Content	Reliability Rating
Scholastic	Acquisition, recognition	3
	In-depth knowledge, understanding, insight	3
	Foreign language orientation	3
	Contemporary environmental awareness	3
	Recall of stored information	2.5
Personal	Commitment to increase decision-making ability	2.5
	Multi-media literacy	2
	Value acquisition through reflection	2
	Integration of interdisciplinary performance	2
	Well-developed ethics	2

assessment of the environment, and recall of stored information. Futuristic education, rated above average in experience previously in experts as a specialized program, and assessment of the environment received clarity opinions. One expert explained that time spent sharpening these types of knowledge is better spent on more easily defined, realistic areas. A higher rating was exhibited by one expert for recall of stored information. According to this expert, without this knowledge the "inquestum for all thought" or synthesis and creativity within the learning environment could occur.

First opinions within the area of student knowledge fell into the personal domain with one—according to business decision making ability—being rated highly. The remaining four items were rated as above average in importance: multi-media literacy, value negotiation through reflection, appreciation of interdisciplinary performances, and well-developed ethical standards. One clarity opinion was received for appreciation of interdisciplinary performances. A reviewer viewed this item as inappropriate for the predominantly gifted student with his/her own set of values.

In summary, opinions about the importance of student knowledge received highest median rankings for the scholastic aims of assimilation and recognition and insight knowledge, understanding, and insight. The highest ranking personal item was according to business decision-making ability. The opinions within the area of student knowledge received lower than an above average rating. These student knowledge suggestions can be viewed as important in assessing

the knowledge factor for probable student success in future secondary programs. Personal characteristics delineated by experts, the third subject of expert opinion in the area of student skills and competencies, is discussed in the following section.

Personal Characteristics of Students

The 11 items placed under academic and personal domain classified for this subject of student skills and competencies received on item 7 that shows average domain ratings. Table 13 contains the content domain, item content, and median rating for expert opinion of the importance of personal characteristics needed by students.

Within the academic domain the following three characteristics were determined by high ratings to be most desirable: task commitment, self-starting ability, and curiosity. Task commitment was stated by one minority opinion to be less intrinsic and more the possible result of extrinsic teaching. However, intrinsic motivation received three minority opinions. These dissenting experts said that intrinsic motivation was less appropriate as a personal characteristic than it was as a goal for teachers to bring out in their students. The remaining ten items under academic characteristics, ability to work in groups and individually, received three average ratings with no minority opinions.

The six items grouped under the personal domain included the following four, each rated highly by expert opinion: self-confidence and sense of physical well-being, intrinsic motivation, skills in interpersonal communication, and maturity. Self-actualization and

Table 15

Expert Opinion of the Importance of Personal Characteristics
Noted by Students

Content Domain	Item Content	Median Rating
Academic	Task commitment, goal-orientation	3
	Self-starting	3
	Curiosity	3
	Ability to work in groups	3
	Persistence	3
Personal	Self-confidence, sense of physical well-being	1
	Intrinsic motivation	1
	Ability in interpersonal communication	1.5
	Emotionally balanced, stability	1.5
	Self-actualization	2
	Cooperation	2

competency, the remaining ten characteristics within the personal domain, were rated as above average.

Consistent with the 16 student skills and 30 items describing student knowledge, these 12 characteristics provided insight into expert opinion of the importance of student competencies needed for future gifted secondary programs. The skills and competencies of teachers, as the effective delivery agents of these programs, is the third focus of this study and are described in the final section of the Phase I discussion of results.

Expert Opinions of the Importance of Teacher Skills and Competencies

Fifty-nine opinions were gathered by the experts who responded to the survey questionnaire for the research questions addressing teacher skills and competencies. These 59 opinions were grouped into four subunits: skills, knowledge, experience, and personal characteristics. The first subunit, teacher skills, and the importance experts gave to this 12 point subunit was the first item addressed. It is significant that many items in the area of teacher skills and competencies were noted by experts as being identical and overlapping with the student skills and competencies presented in the first section.

Teacher Skills

Eighteen opinions were listed by experts for teacher skills which were grouped into three domains: professional qualities, classroom teaching, and human relations. Content domain, item content, and rating rating for expert opinions of the importance of teacher skills are shown in Table 14.

Table 24

Experts' Opinions of the Importance of Skills and Competencies
Sought by Teachers

Content Domain	Item Content	Mean Rating
Professional Qualities	Independent thinking	3
	Creativity	3
	Being a mentor to students	3.5
	Expertise in speaking, writing, listening	3.5
	Relating students to content	3
	Skills in team-building	3.5
	Becoming a resource not just a teacher	3.5
<hr/>		
Classroom Teaching	Making learning exciting	3
	Setting high achievement standards	3
	Teaching to bring out high-level cognitive thinking in students	3
	Evaluation skills	3.5
	Building appropriate, multi-level delivery systems	3.5
	Setting high behavior standards	3
	Good communication skills	3
<hr/>		
Human Relations	Communication skills	3
	Affection skills	3
	Skills in small group interaction	3
	Inviting teachers and learners	3

Under the professional qualities domain, expert opinions placed high median ratings on the following four of seven items: independent thinking, creativity, being a mentor to students, and expertise in speaking-writing-listening. No minority opinions were given for these four items. The remaining three items assessing professional qualities received above average ratings: relating students to numbers, skills in team-building, and becoming a resource individual apart from being a teacher. There was minority opinion for the last two of these three opinions. Team-building skills, according to one expert, deserved more important emphasis by the experts collectively since this quality is vital in creating a trusting environment in the classroom so that sharing and optimal learning can occur. Three opinions were received for the item suggesting teachers stop teaching to become strictly a resource. These expert dissenters thought that teaching always includes being a resource. The last expert, therefore, was a single entity of better, read teaching. A third expert disagreed in this regard, however, and said that teaching, per se, must give up.

There were seven items which were placed within the classroom teaching domain. Five of the seven were seen as most important by experts. The skills of making learning exciting, setting high achievement standards, teaching to bring out high level cognitive thinking, evaluation skills, and bringing appropriate individual delivery options into the classroom. Two of these five items generated minority opinions. Skills in evaluation and individual delivery options,

according to one rater, most rank below the ability of a teacher to teach, and then to share. Setting high standards of behavior and skills is appropriate test construction, the remaining two classroom teaching items, received ratings of above average and average, respectively, with no minority opinion.

The four remaining items within teacher skills fell under the domain of human relations. Three of these items were ranked above average: consultation skills, affective skills, and skills in small group interaction. The fourth item, locating content and interests, was viewed by experts as average. There were no minority opinions stated for the four items with the human relations domain.

In general, the teaching skills rated most highly fell in the first two content domain areas of professional qualification and classroom teaching. Specifically, experts rated as most important the skills dealing with independent thinking, creativity, setting learning goals, setting high standards of achievement, and teaching high level cognitive thinking. These skills, and the following ones under Teacher Knowledge, should be taken into account when assessing a teacher's ability to deliver programs to gifted secondary students.

Containing 18 items, expert opinions of the importance of teacher knowledge was grouped into three content domains: professional, cognitive, and affective. Table 17 displays the content domain, item content, and median rating of expert opinion of the importance of teacher knowledge.

Table 17

Expert Opinions of the Importance of Knowledge Needed by Teachers

Content Domain	Item Content	Median Rating
Pedagogical	Varied instructional strategies	1
	Intellectual superiority	1
	Knowledge of the gifted and their resources	1
	Familiarity with professional literature	2
	How to teach others	2
Academic	Subject-matter knowledge	1
	Command of material	1
	Content expertise of academic discipline	1
	Diagnostic and prescriptive expertise	2
	Awareness of all major academic disciplines	2
	Up-to-date on information and teaching techniques in field	2.5
	Multi-media knowledge	2.5
Affective	Knowledge of gifted psychological development	2
	Knowledge of gifted characteristics	2.5
	Mastery of principles of psychological foundations	2.5
	Knowledge of current psychology of the gifted	2.5

Of the five items expressed under the professional domain, three were rated as highly important: varied instructional strategies, intellectual rigorosity, and knowledge of the gifted and their needs. The remaining two items, professional literature and how to teach ethics, were given a rating of above average. One item, knowledge of how to teach ethics, received a minority opinion. The expert said that ethical development should not belong within the area of teacher competency.

There were seven items grouped within the academic domain, three of which reflected an expert consensus of always needed in the area of content knowledge. Specifically, three most important items are educational theories that are content specific, command of material, and content expertise, none of which generated minority opinions. The remaining four knowledge items received a rating of above average to expert opinion of importance: diagnostic and prescriptive expertise, awareness of all major academic disciplines, up-to-date on information and teaching techniques, and subject-matter knowledge.

Two of these above average items received majority opinions. One expert noted that knowledge of diagnostic and prescriptive techniques is inappropriate for gifted education for they should not be engaged in a "find-out-what-learning and figuring-out business." A second voter said that multi-media knowledge should be considered extremely important and gave the item a higher rating. This expert contended that knowledge of multi-media is crucial if a teacher is to be able to reach each student's individual modality of learning.

The third domain, affective, contained the following four expert opinions, all considered important: knowledge of gifted psychological development, knowledge of gifted characteristics, mastery of principles of psychological foundations, and knowledge of the overall psychology of the gifted. None of these four items generated minority opinions.

In summary, each of the three content domains within the area of teacher knowledge contained opinions which were reported by experts as being important in curriculum delivery. Specifically, as with the opinions generated for teacher skills, these knowledge areas should be viewed as important in assessing teachers within gifted secondary programming. Teacher experience, the third subject within teacher skills and competencies, is discussed in the next section.

Teacher Experience

Three opinions were generated by experts for the area of teacher experience. The content domain, lesson content, and median rating of expert opinions of the importance of teacher experience are shown in Table 18.

All three items were rated by experts with a median of above average. Specifically, according to expert opinion, teacher experience should contain the following areas: involvement in developing one's own talents, integrating into teaching a broad range of skills and accomplishments into interdisciplinary studies, and peerly instruction. Developing one's own talents as a teacher generated one minority opinion. Disagreeing with the item average rating, one expert said

that pursuing one's own talent in teaching should be de-emphasized when this pursuit should be secondary to helping students pursue theirs.

The three median ratings of above average for teacher experience indicated that there was consensus among experts within this disciplinary area. The personal characteristics for teachers provided by experts, the final subject within the area of teacher skills and competencies, is presented in the following section.

Table 18

Expert Opinions of the Importance of Experiences Needed by Teachers

Concept Domain	Item Content	Median Rating
Experience	Pursuit to the development of one's own specialized talent	3
	Integration of a broad range of skills and competencies into interdisciplinary studies	3
	Teach experience	3

Personal Characteristics of Teachers

Twenty-two items placed within three domain clusters characterize expert opinion for the personal characteristics of teachers. Twenty-one of these 33 opinions were regarded by experts as important. The remaining teacher characteristic was rated above average. The content domain, item content, and median rating for expert opinion of the

importance of personal characteristics needed by teachers are presented in Table 18.

The first content domain, teaching skills, contained the following characteristics: ability to facilitate, self-confidence, self-direction, task-commitment, well-organized, tolerance, systematicness, firmness, and the ability to direct. The ability to direct (noted above as weak) was the only item not regarded as highly needed.

Minority opinions were received for two of the above nine from Tennessee, according to one expert, it is a characteristic which should never be needed, on the semantic grounds that tolerance (being needed) is worse than apathy, which is preferred. In addition, one minor viewed the item highlighting firmness and said that this characteristic needs to be coupled with flexibility and skill in individualizing of teaching method.

Personal qualities, the second domain, contained the following seven opinions, all rated as important by experts: flexibility, enjoyment of teaching, skill in interpersonal communication, awareness of self and abilities, sense of humor, facilitation of change, and consistency. Two minority opinions were received. One minor viewed consistency as characteristic of teachers with small minds, while another viewed sense of humor as being too subjective and immeasurable.

The third domain, human relations, contained the following six opinions rated by experts as almost needed in the case of personal characteristics of teachers: sensitivity, enthusiasm, ability to relate to students, peer acceptance, impartiality, and emotionally-balanced personality. No minority opinion was mentioned for these six opinions.

Table 19

Expert Opinion of the Importance of Personal Characteristics
Sought by Teachers

Content Domain	Item Content	Median Rating
Teaching Skills	Ability to facilitate	3
	Self-confidence	3
	Self-direction	3
	Task orientation	3
	Well organized	3
	Tolerance	3
	Open-mindedness	3
	Firmness, not strict	3.5
	Ability to listen	3
Personal Qualities	Flexibility	3
	Enjoyment of teaching	3
	Skill in interpersonal communication	3
	Awareness of self and abilities	3
	Sense of humor	3
	Facilitator of change	3
	Courtesy	3.5
Human Relations	Sensitivity	3
	Enthusiasm	3
	Ability to relate to students	3
	Fair acceptance	3.5
	Open-minded	3.5
	Emotionally balanced	3.5

In summary, despite noted minority opinions, the expert majority was that IF personal characteristics of teachers were essential for future program success. However, the issues of flexibility and ability to individualize must be stressed if the teacher is to be successful in the role of an effective program delivery agent. Moreover, it is noted that teacher characteristics are less measurable or identifiable than other competencies. The experts in this regard commented that listing teacher characteristics was somewhat unfair and overly impossible since no teacher could be ranked perfect or "number one" in all areas. Nonetheless, despite the subjective, immeasurable nature of teacher characteristics, over numerous expert comments of those listed indicated that, of all skills discussed, these subjective teacher qualities may be the most important. Recognizing in what ways these teacher competencies, as well as needed skills and future gifted secondary programs, are perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida was the purpose of Phase II of this study.

Administrators and Teachers' Comparisons of the Importance of Curriculum and Programming

Means, standard deviations, and analysis of variance results for administrators' opinions about the importance of gifted programming are shown in Table 10. Six differences were indicated in responses of

Table 30

Mean, Standard Deviation, and Analysis of Variance Summary Table for Elementary School Social Studies Concepts and Vocabulary

Administrative Grouping	Participant Type (n=100)	Core Concepts (10 items)		Specialized Concepts (10 items)		Diff. Concepts (General 10 items)		Support Services (10 items)					
		M	SD	M	SD	M	SD	M	SD				
General Administration	Administration	1.81	.34	1.79	.54	1.89	.66	1.83	.83				
	Teacher	1.43	.41	1.88	.59	2.38	.64	1.93	.57				
BSE Member	Administration	1.18	.43	1.84	.54	1.72	.47	1.88	.73				
	Teacher	1.63	.46	1.87	.50	1.88	1.07	1.88	.81				
Staffed Cooperative	Administration	1.14	.36	1.58	.46	1.58	.54	1.73	.81				
	Teacher	1.73	.55	1.97	.73	1.83	.97	1.73	.81				
F-tests													
		88	.07	F	145	.07	F	145	.07	F			
Administration Level													
		14	2	.75	.83	2	.86	.11	2	.18	.88	2	.89
Teacher Level													
		.94	1	1.17	.82	2	.86	1.09	1	1.79	.86	1	.11
A.E.B.													
		14	2	.75	.83	2	1.81	.95	2	1.83	.44	1	.77
Error													
		16	14		.97	14		.93	14		.97	14	

**p < .05

NOTE. Number of administrators and teachers in each group was 10.

school personnel to the need for core courses, in general, support for core courses was indicated in their responses. Responses of administrators and teachers working in districts in which Central administrators and DEB Directors were responsible for gifted education tended to be more similar ($\bar{X}=1.90$, 1.81 and 2.50, 2.00, respectively) than were school personnel providing the Gifted Coordinator type districts ($\bar{X}=2.10$, 2.17). This pattern of responding was also evident in specialized courses and support services but not evident in off-campus courses where there existed more of a variation in mean response ratings between administrators and teachers across all types of administrative groupings. As shown in Table 19, standard deviations in each of the four subsets of content items for each of the six groups of subjects varied widely, reflecting each of the six groups were somewhat diverse in their opinions.

Although there were no statistically significant differences produced, qualitative differences were reflected on the surveys themselves. Specifically, the following content items received commentary from 4 of the 18 administrators and from 7 of the 18 teachers: "Curriculum set up according to guidelines of LFE Commission on Curriculum for the Gifted," "Curriculum stressing Secondary Field Model and Talent Pool classes," and "Curriculum guided by NAGY Four-0 Model." "The much educational jargon," for example, was a typical write-in statement from the commenting administrators while teachers who commented expressed a general lack of knowledge about content item specifying

Administrator and Teacher Consensus of the
Importance of Student Skills

As presented in Table 21, results from the two-way analysis of variance revealed no significant differences among administrators and teacher opinions for the subset of content items of skills needed by students, knowledge needed by students, and personal characteristics needed by students. The predominant pattern of results across school personnel under the General Administrator and SSE Director groupings indicated strong support for both skills and knowledge needed by students. Mean response scores between administrators and teachers under the General Administrator grouping were almost identical values for skills and knowledge (\bar{X} =1.55, 1.54 and 1.46, 1.47, respectively). A similar pattern resulted between administrators and teachers under the SSE Director grouping for the same subsets of skills and knowledge (\bar{X} =1.42, 1.42 and 1.45, 1.41, respectively). Administrators and teachers under the third type of administrative personnel (Gifted Coordinator) were less similar to each other in their mean response ratings. Among administrators and teachers across administrative groupings for subset of content items relative to personal characteristics needed by students, the mean range was from 1.38 to 1.48 with most mean ratings being 1.40 or above.

Despite the lack of statistically significant differences, once again qualitative differences were reflected on the surveys for the subsets shown in Table 21. Administrators and teachers across administrative groupings wrote directly on the survey forms that

Table II

Means, Standard Deviations, and Analysis of Variance Summary Tables for Elementary School Children's Self-Concept, Teacher's Self-Concept, and Teacher's Knowledge

Administrative Grouping	Participant Type (n=60)	Teacher Self-Concept		Teacher Knowledge		Student's Perceived Competence	
		F	SS	F	SS	F	SS
General Administration	Administrative Level	1.35	.47	1.46	.48	1.38	.48
	Teacher	1.45	.43	1.47	.43	1.47	.46
SAC Instruction	Administrative Level	1.33	.45	1.45	.43	1.45	.44
	Teacher	1.47	.44	1.45	.43	1.43	.45
Cultural Coordination	Administrative Level	1.46	.32	1.72	.28	1.68	.47
	Teacher	1.35	.49	1.46	.41	1.18	.77
Means		80	40	80	40	80	40
Administrative Level		.17	2	.43	2	1.48	3
							1.38
Teacher Level		.14	1	.44	1	.48	1
							2.04
A B C		.48	2	.23	2	.38	2
							2.08
Error		31	64	31	64	31	64
Total							135

Note: Number of administrators and teachers in each group was 10.

knowledge of computers as an instrument of learning has been developed in public school education. In addition, written modifying statements from practitioners in the field of gifted education indicated that self-reliance as a student skill has a greater bearing as a personal characteristic needed by gifted students than does self-starting abilities.

Administrative and Teacher Comparisons of the Importance of Teacher Skills

For administrators and teachers under the General Administrator grouping, (fourteen) ratings existed under the subsets of skills needed by teachers, experience needed by teachers, and personal characteristics needed by teachers (\bar{X} 's 4.0, 4.0, 4.0, 4.0, 4.0, 4.0, respectively) under the named type of district level administrator (SEE Director). Between school personnel differences do not appear to be large except for the mean ratings presented under the subset "skills needed by teachers" (\bar{X} 's 4.0, 4.0) a similar pattern was evident for the third type of administrative grouping with differences in mean ratings noted under the subset "skills needed by teachers" (\bar{X} 's 4.0, 4.0). Means, standard deviations, and analysis of variance for administrators' opinions about skills and competencies needed by teachers of gifted students are presented in Table 12.

Qualitatively, teachers employed in districts who are responsible to SEE Directors and Gifted Coordinators indicated more frustration in completing the final content area surveys "experience needed by teachers" and "personal characteristics needed by teachers" than did

Table 22

Means, Standard Deviations, and Analysis of Variance Summary Tests for Identifying' Relative Teacher Skills and Competencies needed for Teachers of ELLs and Bilingual

Administrative Grouping	Respondent Type (n)	Teacher Skills		Teacher Knowledge		Teacher Experience		Teacher Characteristics (n)				
		F	SD	F	SD	F	SD					
General Administrator	Administrator	1.48	.62	1.79	.88	1.82	.41	1.38	58			
	Teacher	1.48	.76	1.95	.90	1.82	.41	1.38	58			
ELL Educator	Administrator	1.75	.45	1.81	.31	1.83	.38	1.37	18			
	Teacher	1.82	.61	1.78	.93	1.83	.88	1.38	58			
Gifted Coordinator	Administrator	1.87	.40	1.82	.82	1.83	.40	1.36	58			
	Teacher	1.74	.75	1.86	.93	1.88	1.83	1.36	138			
F-ratio		195	47	7	83	47	7	195	47			
Administrative Grouping		37	1	1.84	18	7	1.88	43	1	38	1	38
Respondent Type		56	1	2.47	.881	1	608	.88	1	95	1	95
A. B. B.		12	2	83	13	1	.36	.88	2	88	1	12
Error		28	88		84		84		84		28	88
Type III												

SDs. Number of administrators and teachers in each group was 18.

teachers employed in districts who are responsible to District Administrators. Teachers assigned to the Director and Gifted Coordinator groupings stated on the survey forms that the total 140 subject line survey generated by the experts was too tedious and had too many items. In addition, many of the teachers assigned to Gifted Coordinator school districts said the teacher skills and competencies as delineated by expert opinion were too similar to those skills and competencies listed for students.

Summary

The results of the two phases of research conducted to investigate the opinions of educational personnel about programs for gifted secondary students was presented in Chapter IV. Phase I contained a detailed summary of the 140 items generated by the Delphi survey to which a panel of 16 national experts in the field of gifted education responded. These research questions were investigated by Phase I. Research question One, addressing future curriculum and programs, was answered by 42 items grouped into four subjects with important domains represented within each subject. Research question two, addressing student skills to succeed in these programs, was answered by 40 items grouped into three subjects with important domains within each subject. Research question three, addressing teacher skills needed to deliver these programs, was answered by 58 items grouped into four subjects with important domains represented within each subject. It was reported that the experts achieved consensus on the importance of future gifted programming for gifted secondary students and the skills needed by students and teachers in these programs.

In Phase II the researcher investigated the extent future gifted programs at the secondary level and the student and teacher skills needed to implement these programs are perceived as similar by administrators and teachers in the state of Florida. This comparative phase presented a comparison of 60 administrator/teacher ratings of the 21 subsets of the 140 item questionnaire generated by the 18 experts in Phase I. An ANOVA was used to test for significant differences between the mean rating scores produced by administrators and teachers operating within three distinct levels of affiliation which included General Administrators, Directors of Exceptional Student Education, and Coordinators of Gifted Education for each content item subset. Grouped mean scores and standard deviations were reported for each subset as well as demographic information for each of the two personnel levels represented in these levels of administrative affiliation. There were no significant differences between administrators' and teachers' perceptual scores on all three administrative groupings.

CHAPTER 5 DISCUSSION AND CONCLUSIONS

An overview of the study, summary of methodology, and discussion of findings are presented in Chapter 5. Implications and recommendations for further research conclude the chapter.

Overview of the Study

Rationale

The existence of gifted education programs in the 1980s has been threatened by programming problems which must be addressed for the future growth and development of the field. Programs which serve secondary education as general have been criticized by both the public and by policy-makers and gifted secondary education in particular has been shown to suffer from a lack of evaluation data for appropriate future programming. The body of literature addressing adequate programming for the gifted secondary student has expressed concern that programming options are providing appropriate resources to the students who need to demonstrate superior benefits from these programs. According to Nelson (1984), educational programs, to survive, must make changes and changes must, if they are to lead to real improvement, must be based on local circumstances. Moreover, to be complete, gifted programs need to expose students to the challenges awaiting them in their future (Gallupe, 1982a).

The crucial idea is use the gifted programming to reach a point of saturation, a point brought about by changes in program goal-setting and evaluation—a process which, according to Bettori (1981), is composed of examples, policy implications, and the role of stakeholders. Clearly, the individuals who are at the core of this process are the policy makers and program delivery agents. They have the responsibility to establish and meet program goals so that students can obtain the appropriate resources they need to eventually demonstrate expected long-term benefits.

Since gifted secondary programming needs evaluation there is an obvious necessity to investigate what national experts in the field of gifted education thought Florida curriculum and program should contain for secondary gifted students and what skills and competencies students and teachers in these programs should have. Since changes in programming which can lead to improvement should be based on local circumstances, this study investigated similarities in the perceptions of these future programs by administrators and teachers as program delivery agents in the State of Florida.

Purpose

Specifically, the purpose of this two-phase investigation was as follows:

1. In Phase I, to use a Delphi Technique to identify curriculum and programming needs for gifted secondary students in public schools (grades 7-12) over the next decade and to identify the skills and competencies for appropriate instruction required by gifted secondary students and their teachers.

2. In Phase II, to determine the extent to which administrative programming needs and competencies are perceived as similar by administrators and teachers in their roles as effective delivery agents of these programs in the state of Florida.

Summary of Methodology

The participants in Phase I of this study, 30 national experts in the field of gifted education, were mailed a three-round Delphi survey. Round I requested a list of future programs for gifted secondary students in the next decade and a list of skills and competencies needed by students and teachers in these programs. Round II provided the experts with a list of their responses and a request to rate each response in terms of the level of perceived need in future programming for gifted students. Round III asked them to change or maintain their individual ratings if they differed by more than one from the group median rating. A consensus, therefore, was produced as well as minority opinions.

Research question one for Phase I, providing the programs which should be developed and implemented for gifted secondary students during the next decade, produced 31 item responses which were grouped into four subjects with important domains represented within each subject. Research question two in Phase I provided a list of expert-generated skills and competencies needed by students in order for them to meet the demands of these programs. The Delphi survey produced 31 item responses grouped into three subjects with important domains represented within each subject. Question three in Phase I

asked experts to list the skills and competencies teachers need in order to deliver appropriate and effective instruction to the next decade's gifted secondary students. Fifty-plus item responses were listed which were grouped into four clusters with important domains represented within clusters.

The participants in Phase II of this study were 56 teachers and 32 administrators, each assigned to one of three levels of administrative diffusion from throughout the 47 school districts in the state of Florida. His equivalent groups of subjects, therefore, were isolated in Phase II of this study. Each administrator and each teacher was asked to complete a demographic information and questionnaire response as a measure of the extent to which administrators' and teachers' responses were similar regarding the importance of future gifted program and the skills and competencies by teachers and students in these programs. Data analysis was presented as a comparison of group means for each content subject. Tables showed means of mean scores, standard deviations, ANOVAs, and demographic information produced by the two personnel levels (administrators and teachers) at three levels of diffusion (General Administrator, DEE Director, and Gifted Coordinator). A discussion of findings, implications, and recommendations for future research are presented in this chapter.

Summary of Findings

A number of questions from within the educational community have emerged to provide relevant information regarding the importance of gifted education. This study provided markedly similar results between administrators and teachers across all three administrative groupings.

The current research findings are discussed with reference to data presented in the review of the literature in Chapter II. This discussion is divided into six areas including expert opinion of the importance of gifted curriculum and program, expert opinion of the importance of student skills, expert opinion of the importance of teacher skills, administrator and teacher comparison of the importance of curriculum and program, administrator and teacher comparison of the importance of student skills, and administrator and teacher comparison of the importance of teacher skills.

Expert Opinion of the Importance of Curriculum and Program

The 18 national experts in gifted education were chosen to participate in this study based on their having met the three criteria of numerous publications, scholarly presentations, and organizational standing. The published research presented by these experts (and other contributors to the field who did not participate in that study) has produced a wide range of curriculum and program options for the overall gifted population. The majority of reviewed research, however, indicated that programs for gifted secondary students are relatively scarce (Rosenfarb et al., 1994, Smith & Payne, 1998).... Fairthorn and Sawyer (1994), for example, reported that at least one study of high school dropouts indicated a percentage of gifted dropouts nearly as great as the percentage of dropouts in the total school population.

Future curriculum and programming for gifted secondary students, the skills and competencies of students and teachers in these programs, and the perceptions of local school personnel about the importance

of these programs had not been investigated. The use of a Delphi technique to determine expert opinion at the national level about future programs and comparing the opinions of administrators and teachers in the state of Florida about their expert predictions permitted this needed area of study to be investigated. Analysis of previous research in gifted programming indicated that public schools which have looked toward the future have changed their program emphasis for gifted students over the last decade to address the following four areas:

1. benefiting the individual rather than attempting to cure the ills of society;
2. serving students who are gifted beyond just the intellectual area;
3. using multiple program options (resource rooms, acceleration, and enrichment) to reach the gifted population; and
4. serving minority and unique groups who are gifted.

Benbow (1980) stressed continuing, adequate funding of a local educational system was to be successful in establishing gifted programs which challenged students to improve their self-initiative in problem solving. Experts and personnel in the field, to help students develop skills appropriately, have provided 13 curriculum models as discussed in Chapter II.

Contemporary secondary gifted education, according to the review of the literature, finds application of these models within an

acceleration, enrichment, and counseling emphasis. In the present study, 42 expert opinion items were generated as future program options for the gifted secondary student. Most important programming strategies included curriculum which stressed acceleration, honors courses, development of inquiry in all areas, creativity, individual choice of special activities, enrichment, university-related coursework, varied multiple options, and the provision of counseling. It is of interest to note that experts' emphasis of comprehensive, core, specialized, and off-campus curriculum categories coincided with those areas and programs discussed in the literature as major focal points for future program development. These results are consistent with the programs emphasized by Goodier et al. (1984), Fox (1980), Mumford (1981), Feldman and Bellhoff (1981), Goodier (1980), Kessel, Holt, and Holt (1981), Treffinger (1981), Goodier (1978), and Brown and Gallagher (1981). Expert emphasis in this study of administrative cooperation and financial adequacy is consistent with the administrative support emphasized by Goodier (1980).

Results of the present study about the commitment to one's fellow man, personal development, resource needs, specific areas of computer-assisted instruction, mathematical concepts, and motivation, however, contradicted the recommendations of some researchers who stressed these areas (Goodier, 1978; Fox & Goodier, 1985; Feldman, Littlefield, & Bransford, 1980; Brown, 1985; Pustis, 1981; Pearson, 1981; Kessel, 1979). Contradictions may be the result of an expert's expressed personal bias and area of professional expertise. A review

of the qualitative data in the current study suggested that minority opinions addressed curriculum concerns not specifically presented within content subjects, especially in areas of social and career concerns, upon the results of individual expertise.

Expert Opinion of the Importance of Student Skills

Review of the descriptive data in the area of student skills indicated strong expert consensus across subjects of skills, knowledge, and personal characteristics. The data strongly supported, in particular, the positions of Renzetti (1982) and Dunn and Price (1985) regarding the individual motivation and self-direction characteristics of the gifted population. In addition, Gillies (1982) reported that gifted students tended to be persistent and self-sufficient. In the present study, a total of 43 of the qualitative differences that gifted students exhibit concerning skills, knowledge, and personal characteristics were generated. Given previous importance by experts over the critical thinking skills of problem solving, insight, discussion making, and critical judgment, 39 of the items provided, 89% were rated by experts as always needed for future gifted secondary programming. Near agreement was seen in the area of student skills between the participating experts and the literature that was seen in the area of curriculum and programming needs.

Expert Opinion of the Importance of Teacher Skills

Fifty-nine opinions about teacher skills were generated by the experts across four subjects of items including skills, knowledge, experience, and personal characteristics. The analysis of the data

reflected strong agreement using aspects of the competencies needed for a teacher to effectively deliver gifted services... Of all teacher items, 48% were determined by experts to be highly important and always needed.

In particular, expert opinions were noted for high cognitive intellectual ability, a serious commitment with studies by Lebesch (1982) and Martens (1984). Competence in the area of sensitivity, flexibility, knowledge of the overall school curriculum, commitment, varied instructional strategies, being a facilitator, and an understanding of giftedness are also consistent with findings reported in the literature that deemed characteristics of effective teachers (Mojica, 1991; Martens, 1982).

The results of the present study are consistent with earlier findings regarding the relationship between teacher competencies and the need to discuss them from a content and a process framework (Anderson, 1980; Martens, 1981; Rogers, 1981). That is, teachers need to be aware of the learning process of gifted students through a recognition approach. In addition, teachers need organizational skills in planning for stimulating learning experiences (Mullhausen & Kuehn, 1984). Expert opinion in this study gave emphasis to this concern by addressing it through the subject domain of classroom teaching and human relations, where teacher qualities of actively learning seeking, good organization, enthusiasm, and sensitivity were given important ratings.

The current findings have added to the research emphasis that teacher skills and qualities needed for effective gifted program

delivery are related to teacher education. Bishop (1988) stressed that teachers placed with gifted students should have the same common qualities found in the gifted group. Hartman (1981), Kerner and Fisher (1985), Fleming and Nelson (1981), and Hall (1980) reported models for training teachers which emphasized those specific skills and competencies as being relevant to teachers of gifted students. It is significant in this regard that many items on the sets of teacher skills and competencies were rated by experts as being highly overlapping with the skills and competencies presented for students.

The results of the data analysis for the expert phase of research have been presented in this section. Results of the comparative phase of research involving administrators and teachers within three levels of administrative difference in the State of Florida is discussed in the following section.

Administrative and Teacher Comparisons of the Importance of Curriculum and Program

The analysis of the data comparing the extent to which administrators' and teachers' perceptions were similar regarding the importance of curriculum and program provided markedly similar results. The analysis conducted by use of four two-way ANOVAs on the extent that subjects of core courses, specialized courses, off-campus courses, and support facilities for courses and programs found no significant differences in mean scores between administrators and teachers across all three levels of administrative difference levels.

Results of the study revealed no clear tendency for quantitative differences between administrators' opinions and teachers' opinions about future gifted secondary courses and programs. However, as discussed in Chapter IV, qualitative differences were reflected via administrator and teacher comments written on the survey instruments. One significant area of concern from both administrators and teachers was a lack of knowledge about specific curriculum and programming as listed by the experts. This may be a clear indication that administrators and teachers, as indicated by demographic information received, have not been introduced to these specific programs through gifted education coursework. Among the 40 participants, 39% of administrators and 43% of teachers acknowledged no credit hours completed in gifted coursework. In addition, 67% of administrators indicated that their districts do not allocate money at the high school level specifically for use with advanced, advanced placement, or honors students.

The results from the current study for gifted programming were consistent with earlier research reported in the literature on teacher effectiveness within programs and on a lack of sufficient local funding for gifted education. Serian (2003), Garcia and Parker (2002), Fleming and Talbot (2002), and Bell (1992) reported the need for teachers in gifted education to participate in graduate programs designed specifically to cover process and legislation delivery, content specific, or gifted teaching. The literature discussed the reality that many local school districts are still not emphasizing gifted student

educational priorities and, according to the results of this study, they are not spending part of their allocations on gifted student education (Guerhart, 1988; Gussler et al., 1988; Mitchell, 1982).
Administrators and Teacher Perceptions of the Importance of Student Skills

No significant differences were found in mean scores between administrators and teachers operating in three levels of administrative diffusion on the three content area subsets of student skills, knowledge, and personal characteristics. The predominant pattern of results across school personnel indicated strong support for all three content area subsets and the important domains reported within subsets. The results of the present study were consistent with earlier findings of the characteristics of the gifted student reported by Guerhart (1988).

Qualitatively, however, differences were reflected by administrators and teachers on the survey items for student knowledge in applied computer operations. Of administrators and teachers across administrative groupings, 2% reflected negatively on the future of computers as an instrument of learning in the classroom. The current study added information to earlier prognostications reported in the review of the literature for the need for computer-based gifted instruction (Gussler, 1988; Jackson, Littlefield, & Goodford, 1988; Nease, 1982). The lack of administrator and teacher interest in programs which emphasized computer skills was consistent with the experts' average rating of computers as a learning device. When these results were compared to the emphasis given computerized instruction in the literature, the expectation for education to encounter computers in

gifted classroom is disputed. The inconsistent findings on computer importance within future gifted programs could be attributed to three possibilities: finding to avoid computers for individual classroom may not be widespread, individual classroom teachers may not deal with computers because computer skills may be a course in itself, or teachers themselves may have no computer skills on which to draw.

Administrator and Teacher Comparisons of the Importance of Teacher Skills

Analysis from the use of four two-way ANOVAs revealed no significant differences among administrator and teacher opinions across all three levels of administrative diffusion for the subjects of content items of skills needed by teachers, knowledge needed by teachers, experience needed by teachers, and personal characteristics needed by teachers. As for the three content free subjects within students' skills, the predominant pattern results across school personnel indicated consensus in support for all content free subjects. This subject of content free received high ratings by all participants within all three levels of administrative diffusion in this study. The results of the present study were consistent with earlier findings discussed in the literature about skills and competencies perceived by effective teachers of gifted students (Deshaut, 1985; Schiano, 1984).

Qualitative differences were noted for the subjects of content items within teacher skills as they were for providing subjects of content items. Teachers employed in districts who were responsible

to SME Directors and Coordinators of Gifted Education indicated frustration in completing the total 360-item survey. It is possible the ratings of these teachers for the items under "Superiorities Needed by Teachers" and "Personal Characteristics Needed by Teachers" are reflective of fatigue and a lack of patience in dealing with the final subsets of complex items.

Collectively the respondents who participated in the comparative phase in the present study were in strong agreement with most of the mean ratings for the subsets of content items which the experts provided who participated in the Delphi phase of the study. A discussion of the results of the data analysis for both phases have been presented in this section. Implications of the study are discussed in the following section.

Implications

Researchers and practitioners need to combine policy and practice and cooperate in developing effective and appropriate future curriculum and program for gifted secondary students. Based on the combined results of the two phases of this current research and the related literature review presented in Chapter II, practical implications are presented in this section for results found for each phase of the study.

Expert Opinions of Program and Student and Teacher Skills

The analysis of the data provided by the current study supported previous research data that effective and appropriate programs for gifted secondary students are developed around the following:

benefiting the individual rather than merely serving giftedness extending beyond the area of intellectual giftedness using multiple program options which emphasize acceleration, enrichment, as effective components, and the skills promoting high-level productive thinking. The importance of curriculum and programming needs in these major orientations has been reported throughout the literature (Davis & Rimm, 1985; Feldman & Gellert, 1988, 1991; Gellert, 1992; Mosher, 1990; Parnes, 1977; Parnes, 1981; Renaldi, 1977; Treffinger, 1988; Weiss & Gallagher, 1992).

Effective curricula need to reach gifted adolescents so that they obtain sufficient and efficient academic programs which match capability to requirement. Educational disengagement, waste of potential, dropout, and failure are negative outcomes of inappropriate programming and have been documented in the literature (Parnes et al., 1980).

Curriculum and program must be carefully selected to fit the specific needs of the gifted learner. It is of importance, therefore, to consider the role of the gifted student and the individual skills presented by this student when selecting an appropriate teaching model. Characteristics of gifted students, described in the literature (Overhaert, 1980), were consistent with the skills and personal characteristics noted by experts for gifted students in the current study. Specifically, gifted students are independent, prefer learning through less structure, exhibit persistence, and are self-sufficient. The collection skills, competencies, and learning styles of gifted

students have been noted in the literature (Bass & Price, 1982; Farnell, 1981). Educators should monitor programs to ensure that efficient instruction occurs which leads toward the academic, critical thinking, research/working, communication, administrative, and personal domains gifted students display throughout the student skills and competencies matrix.

Teachers of gifted students can facilitate learning through the effective use of their own skills and competencies. The personal characteristics and teaching strategies of delivery agents in gifted programs should include abilities falling within noted lines domains of human relations, academic knowledge, and effective assessment. The use of independent thinking, intellectual superiority, creativity, acknowledgment of high achievement students, encouragement of high-level cognitive thinking, use of varied instructional strategies, and overall sensitivity have been evidenced by researchers in gifted education literature (Gustaf, 1981; Hoffman, 1982; Kohnen, 1982; Kessler et al., 1981).

The researcher found that there was strong agreement between HICaregivers' opinion of the importance of program and student and teacher skills and expert opinion of the importance of program and student and teacher skills. Experts who develop policy, however, should not, based on the results of the current study, suggest that practitioners will be familiar with the specifics of policy-oriented gifted curriculum techniques.

Administrative and Teacher Opinions of Programs and Student and Teacher Skills

An examination of the results of the current study revealed no significant differences between administrators and teachers operating across these levels of administrative diffusion on any of the content item subsets of future gifted programs and student and teacher skills in those programs. Based on the results of this study there does not appear to be evidence to suggest that dissemination of opinion exists between administrators and teachers operating in different types of districts about future gifted curriculum and programming needs and the student and teacher skills and competencies within those programs. In addition, as discussed, respondents in the comparative phase of the study were in strong agreement with most of the items ratings for subsets of content items of the experts who participated in the Delphi phase. Specifically, comparative responses indicated support for all 11 subsets of content items generated by the experts.

Policy makers who investigate programming needs at the national level should remember that, although administrators and teachers operate within school districts as delivery agents of gifted programs, they may lack the specific knowledge needed to successfully implement those curricular demands addressed in the literature. While results of this study indicated strong agreement between expert opinions and school-based personnel opinions about future programming, this does not indicate a direct cause and effect relationship. Agreement of philosophical models and strategies alone may not result in improvements in future gifted programming at the secondary level.

The results from the present study indicate that agreement among experts who provide programming policy and school-based practitioners who serve as educational delivery agents can, philosophically, facilitate the achievement of gifted education. Curriculum and programming techniques, understanding of student and teacher skills, and the implementation of proposed teacher training curriculum tend to be combined as a practical approach to making useful future educational decisions for gifted secondary students.

Cautions, however, must be taken in the interpretation of results. There was a significant lack of knowledge by school-based personnel about specific curriculum and programs listed by experts (specifically Secondary Triad, Talent Pool classes, SMPI Junior Model, Fusion model, and SOI applications). It is possible that content issues reported by the 10 experts who responded to the three rounds of the Delphi survey are reflective of national academic policy makers who may lack awareness that content-specific secondary teachers lack undergraduate coursework experience in dealing with specific education-oriented gifted programming. The literature has determined that, where needed, a revision of the teacher-training curriculum may be indicated (Shawna, 1981; Rutherford et al., 1980).

In addition, a possible explanation for the lack of significant differences between administrators and teachers across administrative diffusion levels may simply indicate that while all of the participants view all of the content issues as at least moderately needed, it is not feasible to expect that any given school system could accommodate all

of the items addressed by the experts. Therefore, although all items received high ratings, additional factors such as cost, staff, and resources must be considered in the actual implementation of such services. As such, recommendations for future research in the area are discussed in the next section.

Recommendations for Further Research

The current study was conducted to provide information on opinions of educational personnel about programming for gifted secondary students. The purpose of Phase I of the study was to investigate what various experts in the field of gifted education thought future curriculum and program should contain for gifted secondary students and what skills and competencies students and teachers in these programs should have. Phase II of the study investigated the similarities in the perceptions of these future programs by administrators and teachers who, as school-based personnel, serve as program delivery agents of these programs in the state of Florida. Recommendations for further research are presented based on the findings of this study.

A replication of this study should be done with other experts and in other school districts so that a comparison of results can be made. The replication study would provide curriculum and programming needs and perceptions of these needs by school-based personnel in a wider range. Comparisons could be made between experts with different levels of expertise and different types of school personnel.

There is a need for follow-up research which addresses actual school-based implementation of recommended curriculum and programming

The survey instrument developed by the experts in this study was nondiscriminatory. Research needs to be conducted to answer the following questions pertinent to the specific interest in the development and implementation of gifted programming:

1. Are the types of curriculum and programs which found consensus among experts and practitioners being adequately delivered and supported in various school districts?
2. Are types of school personnel using the most defensible criteria to evaluate student and teacher skills and competencies necessary for successful gifted programming?
3. Do school-based practitioners need to become better informed about the specific methods which are recommended by policy makers to program effectively for gifted instruction?
4. Do experts utilize a different level of expertise to recommend education-based content curriculum by academic area rather than by secondary content area?
5. Are different types of content-based secondary teachers recognizing and using the appropriate types of programming models to best stimulate and encourage gifted learners?
6. Is inservice training being provided for administrators and teachers in gifted programming techniques?

With an updated curriculum guide to reach gifted students, school-based personnel are the persons at the front point. These individuals need to understand both the specifics of a particular program approach and the needs of gifted students to be able to connect in class.

evaluate the measures which turn potential into growth. Policy makers and administrators and teachers at school-based levels of operation, therefore, need to be involved in a program planning effort in order to facilitate important two-way communication between national experts who recommend policy and local agents who deliver it. Through workshops and appropriate decisions in teacher education format, national and local educators should be integrated into a planning effort for gifted programming so that there is a coordination of effort at both levels. Such a cooperative effort would provide an opportunity for the tailoring of courses and programs to a more appropriate level for long term goal achievement. If a national effort of this nature is not attempted, an important resource for growth of the field is being neglected.

Specific improvement of teacher education through graduate coursework in universities (pretraining) or through workshops (continuing training) should include specific emphasis on recommended expert models for appropriate gifted education. A series of case studies needs to be developed to document adequate and inadequate applications of gifted programming models which already exist in school districts. These case studies could be used as training devices throughout the country both in colleges and local educational settings. In this way, school-based personnel could have the opportunity to learn gifted curriculum principles and model techniques while learning at the same time how to apply them to their particular educational situation and content area.

APPENDICES

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APPENDIX A
PHASE 1 INTERPRETATION

Letter Requesting Participation in Gifted Study

As a nationally recognized leader in the field of gifted education, your participation is essential for the successful completion of dissertation research I am conducting on curriculum planning for gifted students at the secondary level. Phase I of the investigation is the completion of a hybrid study assessing secondary gifted programs and student/teacher competencies relating to these programs by 10 experts in gifted education. Based on your numerous publications, scholarly presentations, and organizational directorship, you have been selected as one of the 10 experts.

If you participate, three rounds of questionnaires will be mailed to you at approximately two-week intervals. The first round, which is attached, involves three open ended questions. The second round will involve a checklist rating scale of the responses from round one. The third round involves a comparison of your rating and the median rating from round two. Each questionnaire should take approximately 10 minutes to complete.

Your valuable assistance in completing the three rounds of questionnaires will provide me with the foundation needed to complete my research. Phase II of the study will collect information from Florida's Directors of Exceptional Student Education, Coordinators of Gifted Programs, and General Administrators and a stratified sample of teachers of gifted secondary students. Besides of the study will be the identification of programming and curriculum needs for gifted secondary students in Florida's public schools, the identification of skills and competencies for appropriate instruction by gifted secondary students and their teachers, and determination of how these administrative programming needs and competencies are perceived by teachers as their role or effective delivery agents of these programs.

Thank you for your time and expertise. I would also appreciate receiving a copy of your vote along with the completed Round 1 questionnaire. Please do not hesitate to contact me (304-293-0750) should you have any questions relative to this study.

Sincerely,

Joseph E. Walther
Research Coordinator

Follow-up letter to Round 1

A few weeks ago, I mailed you a questionnaire and a letter requesting your participation in a highly study concerning gifted education at the secondary level. I have not, as of this date, received your completed questionnaire. I recognize that a professional of your caliber receives many requests to participate in research projects, present at conferences, lecture to groups, and may other demands on your time. However, I would like to again ask your support of this project as without the input of nationally recognized experts, the study simply cannot be completed.

Could you please take time from your busy schedule to complete the Round 1 questionnaire I mailed to you on December 19, 1990? If you are unable to locate the form, please contact me at (408) 292-2312 and I will immediately forward a duplicate to you.

Thank you in advance for your assistance in completing this important research project. Please don't hesitate to contact me if you have any questions or concerns about this study.

Sincerely,

Joseph C. Kiskadee

Letter to Experts Completing Round 1

Thank you for your willingness to participate in my research study requiring expert opinions on questions relating to gifted education at the secondary level. I recognize that a professional of your caliber received many requests to participate in research studies, present at major conferences, and other such demands on your time. Your support of this project is sincerely appreciated.

I have, as of this date, received the completed Round 1 Questionnaire from six of the ten Delphi study participants. I have begun to prepare the information to be presented in a checklist format for the Round 2 Questionnaire. This questionnaire should be mailed to you within the next two weeks.

Again, thank you for your assistance. I am certainly looking forward to receiving the final results of this Delphi study. If you would like, I would be happy to forward you a copy of the results of the completed study.

Sincerely,

Joseph C. McIntire
Department of Education
University of Florida

Letter Requesting Completion of Round II

Thank you for your willingness to participate as one of the 10 nationally recognized experts in gifted education completing a Delphi study regarding the education of gifted secondary students. I have received the completed questionnaires from all 10 of the participants and have summarized the responses as indicated on the attached Round II Questionnaire.

Please complete the attached checklist rating scale (Round II Questionnaire) and return it to me in the enclosed self-addressed, stamped envelope. As I indicated in my previous communication, one more questionnaire will follow which involves a comparison of your rating on the attached scale and the median rating from all Round II questionnaires. As previous Delphi studies have supported, the results from the three rounds of questionnaires from authorities in the field will provide a sound statement on the development of curriculum and programs for gifted students at the secondary level, and the skills and competencies needed by gifted students and their teachers to effectively implement these programs.

Again, thank you for your time and expertise. I would appreciate it if you could return the attached questionnaire within one week. Please do not hesitate to contact me (305/322-8344) if you have any questions.

Sincerely,

Joseph C. Kainer
Research Coordinator
University of Florida

Sheet II. JAWABAN

Depth Survey on Education of the Gifted

INSTRUCTIONS: Please give clear lines of answers extracted from you and what other leaders in the field of gifted education on the Board of Governors. Please mark list in a rating scale. Please fill in what you feel is the most appropriate rating number for each response. Please return the completed Board II questionnaire by March 15, 1988, in the attached envelope. Thank you.

QUESTION 1: WHAT SPECIFIC CURRICULUM AND PROGRAMS SHOULD BE DEVELOPED AND PERFORMED (GIVE THE BEST IDEAS TO PROVIDE APPROPRIATE AND EFFECTIVE EDUCATIONAL OPPORTUNITIES FOR GIFTED STUDENT STUDENTS)

RATING: 1 = Strongly Needed 4 = Strongly Needed
2 = Strongly Needed 3 = Strongly Needed
3 = Strongly Needed

ACTION: OUR CURRICULUM/PROGRAMS

- _____ 1. Offer advanced placement courses
- _____ 2. Offer International Baccalaureate Program
- _____ 3. Offer honors courses
- _____ 4. Offer curriculum with multidisciplinary approach
- _____ 5. Offer "enrichment program" - focus disciplines contributing to a cultural education
- _____ 6. Provide standardized curriculum with minimal student guidelines
- _____ 7. Provide enrichment program structured after the Florida model for secondary education
- _____ 8. Offer foreign languages
- _____ 9. Provide product-out (consumer) oriented curriculum
- _____ 10. Provide curriculum with frequent groupings
- _____ 11. Offer modification opportunities
- _____ 12. Provide curriculum leading to career preparation
- _____ 13. Provide courses designed to cater to the development of the total individual: cognitive, affective, psychomotor
- _____ 14. Offer curriculum stressing cultural heritages frequented by many students through the ages
- _____ 15. Offer curriculum stressing emphasis on affairs of world
- _____ 16. Provide curriculum free, student-centered, not traditional
- _____ 17. Offer curriculum stressing Secondary Trend Model and Talent Pool CHS4400
- _____ 18. Provide curriculum stressing elements leading to basic intellectual training
- _____ 19. Provide updated and enriched curriculum preparing students to think well in any subject
- _____ 20. Offer curriculum based on specific teaching goals of institutions for each discipline taught at the secondary level
- _____ 21. Offer curriculum set up according to guidelines of LGE Commission to curriculum for the gifted
- _____ 22. Offer curriculum guided by NAGC four-t model (Diverse, Diverse, Diverse, Diverse)

<u>SATIS</u>	<u>SPECIALIZED COURSE/PROGRAM</u>
_____ 15	Provide resource rooms
_____ 16	Provide computer-assisted instruction
_____ 17	Provide curriculum using metaphorical, mechanical, and mathematical analogies
_____ 18	Offer leadership opportunities
_____ 19	Offer programs stressing creative, critical thinking with both ideas and things
_____ 20	Provide program (and content) emphasis
_____ 21	Provide diversity opportunities
_____ 22	Offer programs stressing dialogue which is critical and analytical of ideas, belief, and all of reality
_____ 23	Provide studies of media (exposure of content)
_____ 24	Offer creative problem solving
_____ 25	Provide curriculum stressing brainstorming and RBT applications
_____ 26	Provide individual options that are not simply limited to advanced placement, honors courses
_____ 27	Offer special studies of regular courses which meet high school credit
_____ 28	Offer varied special classes
_____ 29	Provide curriculum stressing creative (individual body selection reducing stress and contributing to overall health)
_____ 30	Provide opportunities for exploration which goes beyond the "known"
_____ 31	Offer future research (change and focusing with emphasis on imagination, ecology, stories, species evolution, "historical," and a study of the development of CHRP)
_____ 32	Provide for development of visual and performing arts
_____ 33	Offer simulation games

BY CAMPUS COURSE/PROGRAM

_____ 34	Provide settings and/or university coursework while in high school
_____ 35	Provide mentorships
_____ 36	Provide internships
_____ 37	Provide enrichment centers or activities
_____ 38	Provide varied "off campus experiences"
_____ 39	Provide apprenticeships
_____ 40	Offer multiple program options (field trips, extracurricular activities, seminars, research, summer and/or weekend courses)
_____ 41	Offer support school options
_____ 42	Offer residential programs to foster and encourage socialization and general areas of collaboration/academic interests
_____ 43	Provide chances to serve America in public service ways (financially based)

SUPPORT SERVICES FOR COURSE/PROGRAMS

_____ 44	Provide use of special tutors
_____ 45	Offer courses including an effective component (learning)
_____ 46	Offer opportunities for self evaluation to determine appropriateness of participation with gifted peers
_____ 47	Provide training the techniques of education and education
_____ 48	Provide program to attract students
_____ 49	Provide student involvement opportunities in planning curriculum

SAFING SUPPORT SERVICES FOR COURSE/PROGRAMS (Cont'd)

- ____ 18. Provide bulletin conditions of timeliness and change
- ____ 19. Strive for administrative cooperation
- ____ 20. Strive for financial adequacy
- ____ 21. Minimize entry assessment/identification
- ____ 22. Minimize follow-up procedures for both student progress and program needs

QUESTION 11: WHAT SKILLS AND COMPETENCIES WILL GRADUATE SECONDARY STUDENTS NEED IN ORDER TO MEET THE REQUIREMENTS OF THEIR PROGRAM?

- ANSWER:
- | | |
|---------------------------------|--------------------------|
| 1 = <u>Clearly Needed</u> | 4 = <u>Often Needed</u> |
| 2 = <u>Slightly Needed</u> | 3 = <u>Seldom Needed</u> |
| 3 = <u>Indifferently Needed</u> | |

SAFING GENERAL SKILLS BY STUDENTS

- ____ 1. Critical, cognitive, and creative thinking
- ____ 2. Problem solving
- ____ 3. Learning, appreciating, and valuing
- ____ 4. "Life or learn skills" (reasoning, data analysis)
- ____ 5. Appropriate use of advanced (text) reference materials (e.g., abstracts)
- ____ 6. Written, oral, and visual communication
- ____ 7. Development of products which bring about maximum impact
- ____ 8. Self-directed learning skills
- ____ 9. Demonstrating proficiency in basic individual activities/tasks
- ____ 10. Reflective thinking
- ____ 11. Communication and divergent thinking skills
- ____ 12. Library and research skills
- ____ 13. High level metacognitive processing skills
- ____ 14. High level writing skills
- ____ 15. Time management skills
- ____ 16. Basic skills which constitute the skills of scholarly inquiry
- ____ 17. Problem identification, problem definition, and problem inquiry analysis
- ____ 18. Decision-making skills
- ____ 19. Spatial, visual, verbal, and relativistic skills
- ____ 20. Creativity that is two-three dimensional, not just method or quantitative
- ____ 21. Advanced skills in comprehending and memory and evaluation
- ____ 22. Insight skills
- ____ 23. Critical skills
- ____ 24. Skills in "total preparation" in four abilities (see curriculum mastery and career preparation)

SKILLING SKILLS BY STUDENTS

- ____ 25. General ability to summarize and/or recognize material
- ____ 26. General ability to recognize or recall information that has been previously stored
- ____ 27. In-depth knowledge, understanding, and insight in a discipline area
- ____ 28. Future studies
- ____ 29. Multi-media literacy (computer, TV, video)
- ____ 30. Understanding of critical stages/developmental processes, and advantages which occur at contemporary period of time

<u>DATE</u>	<u>EXPERIENCE GAINED BY STUDENTS</u>
_____	50. Counseling to help consider alternatives and consider other options
_____	51. Application of a set of values through reflection, self-education
_____	52. Application of outstanding performance and products in all areas (intellectual/physical/emotional)
_____	53. Higher level critical development

<u>DATE</u>	<u>PERSONAL CHARACTERISTICS GAINED BY STUDENTS</u>
_____	54. Task commitment, goal-directed behavior
_____	55. Self-confidence, positive self-concept, and sense of physical well-being
_____	56. Interpersonal communication characteristics
_____	57. Emotional balance
_____	58. Motivation which is intrinsic
_____	59. Self-actualization
_____	60. Compassion, concern, involvement in society's well-being
_____	61. Ability to work in groups
_____	62. Self-reliance
_____	63. Confidence
_____	64. Self-starting abilities

QUESTION 110: WHAT SKILLS AND COMPETENCIES WILL THE TEACHERS OF CARTER STUDENTS NEED IN ORDER TO FURNISH APPROPRIATE AND EFFECTIVE INSTRUCTION FOR CARTER STUDENTS?

<u>DATE</u>	1 = <u>Always</u> Needed	4 = <u>Seldom</u> Needed
	2 = <u>Frequently</u> Needed	3 = <u>Occasionally</u> Needed
	5 = <u>Extremely</u> Needed	

<u>DATE</u>	<u>SKILLS WISHED BY TEACHERS</u>
_____	1. Fostering learning in existing programs
_____	2. Relating gifted students to gifted matters
_____	3. Setting high standards of achievement
_____	4. Setting high standards of behavior
_____	5. Independent thinking skills
_____	6. Skills in communication
_____	7. Team-building skills
_____	8. Creativity
_____	9. Skills in counseling and teaching affective development
_____	10. Skills in constructing needs to document student growth
_____	11. Using a mentorship/peer-teaching to acquire independent study skills
_____	12. Locating mentorship/peer-teaching
_____	13. Developing teaching and becoming a resource
_____	14. Speaking, writing, and listening skills
_____	15. Skills in leading small groups
_____	16. Skills in teaching high level cognitive (critical and creative) thinking
_____	17. Skills in appropriate recognition
_____	18. Skills in providing delivery system that integrates the cognitive, affective, physical, and intuitive

LEARNINGKNOWLEDGE SKILLS OF TEACHERS

- 19. Behaviors appropriate to the education of the gifted
- 20. Use of variety of appropriate instructional strategies
- 21. Intellectual honesty
- 22. Common expertise
- 23. Knowledge of gifted and resources for the gifted
- 24. Professional literature
- 25. Knowledge of the psychology of the gifted
- 26. Up to date knowledge on techniques and information
- 27. Training in diagnostic and prescriptive techniques
- 28. Knowledge of basic counseling areas
- 29. Command of material
- 30. Knowledge of development of the gifted
- 31. Knowledge of characteristics of the gifted
- 32. Political development (knowledge of how to reach it)
- 33. Multi-media knowledge
- 34. Demonstration of history of psychological foundations, teaching strategies, teaching delivery, and research

EMULANCE SKILLS OF TEACHERS

- 35. Development in the pursuit of development of one's own specialized talent
- 36. Broad range of skills and accomplishments--ability to integrate skills into interdisciplinary studies
- 37. Descriptive profile

PERSONAL CHARACTERISTICS SKILLS OF TEACHERS

- 38. Special relationship skills to work with gifted students, colleagues
- 39. Ability to direct students
- 40. Consistency
- 41. Ability to be flexible
- 42. Sensitivity
- 43. Be fair, impartial
- 44. Firm, not strict
- 45. Enjoy teaching
- 46. Interpersonal communication skills
- 47. Enthusiasm
- 48. Emotionally balanced
- 49. Ability to be a facilitator
- 50. Self-knowledge, awareness
- 51. Self-confidence
- 52. Self-direction
- 53. Task commitment
- 54. Well-organized
- 55. Sense of humor
- 56. Fairness
- 57. Ability to relate to gifted students
- 58. Ability to facilitate change
- 59. Intrinsically motivated, vigorous, open minded, love of challenge

Letter Requesting Completion of Round 111

Thank you for your continued support of my research efforts in the area of curriculum planning for gifted secondary students. Your time and effort in completing the Round 111 Questionnaire is very much appreciated. You should (and thank) have given me the opportunity to see your Round 11 responses as they compared to the median responses of the group at large. This questionnaire lists six of your responses which differed by more than one from the median. You need to be concerned only with those responses. Please consider the differences and (a) change your ratings to the median OR (b) explain your difference of opinion on the original questionnaire sheet.

If a item appears in your column, it means you did not rate this item as previous questionnaires. If so, please do so on this round by choosing one of the two options above.

Please complete this final questionnaire and return it to me in your very earliest convenience in the enclosed self-addressed envelope. As I indicated in my first letter to you, completion of this helpful study will provide the basis for me to move to Phase II of the study which is the completion of a questionnaire by both educational administrators and teachers of gifted secondary students.

Thank you again for your help and involvement in this research project.

Sincerely,

Joseph E. Bellard

Round III Instrument

English Survey on Education of the Deaf

Directions: The results of the Round II questionnaire are presented below. Appearing to the left of each statement are the following: (I) the item's median rating and (II) your rating of your answer derived from the median by more than one (1). The purpose of Round III is to give you the opportunity to either agree with the median, or maintain your own rating. Simply cross out your median rating if you wish to agree with the listed median rating. If, on the other hand, you prefer to maintain your original rating, do so by filling out the attached Discussion Sheet. A new (2) rating appearing on your rating sheet that you did not rate the item previously. If you did not, please do so now, and return this completed Round III Instrument and Discussion Sheet in the attached self-addressed stamped envelope. Thank you.

QUESTION 1: What specific curriculum and programs should be developed and implemented during the next decade to provide appropriate and effective educational opportunities for gifted secondary students?

RATING: 1 = Always Needed, 2 = Highly Needed, 3 = Moderately Needed, 4 = Slightly Needed, 5 = Never Needed

Curriculum/Programs

<u>Item</u>	<u>Rating</u>	<u>Median</u>
1. Offer advanced placement courses	_____	2
2. Offer interschool districtwide focus	_____	2
3. Offer honors courses	_____	2.1
4. Offer curriculum with multidisciplinary approach	_____	2
5. Offer "special general education"—basic competencies contributing to a liberal education	_____	2.1
6. Provide standardized curriculum with varied student guidelines	_____	4
7. Provide multidisciplinary program structured after the Paoletti model for secondary education	_____	2
8. Offer foreign languages	_____	2
9. Provide product-out consumer oriented curriculum	_____	2
10. Provide curriculum with homogeneous grouping	_____	2
11. Offer accelerated opportunities	_____	2
12. Provide curriculum leading to career preparation	_____	2
13. Provide courses designed to pertain to the development of the social behavioral sciences, literature, mathematics	_____	2
14. Offer curriculum stressing cultural heritage imparted by way students through the ages	_____	2.1
15. Offer curriculum emphasizing community in nature of setting	_____	2.5
16. Provide curriculum free, student-centered, non traditional	_____	2.1
17. Offer curriculum stressing secondary level model and Talent Pool classes	_____	2
18. Provide curriculum stressing classroom leading to home environmental training	_____	2

Year Rating	Median	CORE COURSE/PROGRAM
_____	<u>1</u>	18. Provide updated and integrated curriculum preparing students to think well in any subject
_____	<u>1.5</u>	19. Offer curriculum based on specific teaching units of instruction for each discipline taught at the secondary level
_____	<u>1.5</u>	21. Offer curriculum set up according to guidelines of CTE Commission on Curriculum for the 21st
_____	<u>1</u>	22. Offer curriculum' guided by 2007 Race-0 model (Discover, Research, Develop, Innovate)
<u>GENERAL CORE COURSES/PROGRAMS</u>		
_____	<u>1</u>	23. Provide instruction from
_____	<u>1</u>	24. Provide computer-assisted instruction
_____	<u>1</u>	25. Provide instruction using metaphorical, metaphorical, and metaphorical models
_____	<u>1</u>	26. Offer leadership opportunities
_____	<u>1</u>	27. Offer program stressing creative, critical thinking with both facts and things
_____	<u>1</u>	28. Provide program that stresses emphasis
_____	<u>1</u>	29. Provide creativity opportunities
_____	<u>1</u>	30. Offer program stressing thinking which is critical and scientific of ideas, belief, and all of reality
_____	<u>2</u>	31. Provide students of science (science of science)
_____	<u>1.5</u>	32. Offer creative problem solving
_____	<u>1.5</u>	33. Provide curriculum stressing understanding and 501 applications
_____	<u>1</u>	34. Provide activities options that are not simply limited to advanced placement, honors courses
_____	<u>2</u>	35. Offer special versions of regular courses which meet high school needs
_____	<u>1.5</u>	36. Offer varied special students
_____	<u>1</u>	37. Provide curriculum stressing sciences (individual body sciences relevant to and contributing to overall health)
_____	<u>2</u>	38. Provide opportunities for exploration which goes beyond the "known"
_____	<u>1</u>	39. Offer science research (change and learning with emphasis on strategies, strategy, strategy, science education, "systems," and a study of the contemporary society)
_____	<u>1</u>	40. Provide for development of visual and performing arts
_____	<u>1.5</u>	41. Offer education program
<u>OFF-CORE COURSES/PROGRAMS</u>		
_____	<u>1</u>	42. Provide college credit equivalency coursework while in high school
_____	<u>1</u>	43. Provide internships
_____	<u>1</u>	44. Provide internships
_____	<u>1.5</u>	45. Provide community centers or activities
_____	<u>1.5</u>	46. Provide varied "off campus" experiences
_____	<u>1</u>	47. Provide opportunities
_____	<u>1</u>	48. Offer multiple program options (field trip, extracurricular activities, mini-courses, seminars, summer and/or weekend school)
_____	<u>1.5</u>	49. Offer support school options

First Rating	Section	OFF CAMPUS COURSES/PROGRAMS
_____	<u>1.5</u>	20. Offer residential components to foster and encourage socialization and general sense of responsibility/responsible behavior
_____	<u>1.5</u>	21. Provide choices to enter service in public service work (community based)
<u>SUPPORT SERVICES FOR COURSES/PROGRAMS</u>		
_____	<u>1</u>	22. Provide use of special tutors
_____	<u>1.5</u>	23. Offer curricula including an effective component (controlling)
_____	<u>1.5</u>	24. Offer opportunities for self-evaluation to determine appropriateness of relationships with placed peers
_____	<u>1</u>	25. Provide training the techniques of selection and selection
_____	<u>1.5</u>	26. Provide programs to attract service
_____	<u>1</u>	27. Provide student involvement opportunities in planning curriculum
_____	<u>1</u>	28. Provide built-in conditions of flexibility and change
_____	<u>1</u>	29. Define for administrative responsibilities
_____	<u>1</u>	30. Define for financial support
_____	<u>1</u>	31. Utilize early assessment/evaluation
_____	<u>1.5</u>	32. Utilize follow-up procedures for both student progress and program worth

QUESTION 12: WHAT SKILLS AND COMPETENCIES WILL GRADUATE SECONDARY STUDENTS NEED IN ORDER TO MEET THE REQUIREMENTS OF THEIR PROGRAM?

RATINGS: 1 = Always Needed, 2 = Highly Needed, 3 = Moderately Needed,
4 = Little Needed, 5 = None Needed

SKILLS/KNOWLEDGE BY STUDENTS

_____	<u>1</u>	1. Critical, cognitive, and creative thinking
_____	<u>1</u>	2. Problem solving
_____	<u>1</u>	3. Reasoning, synthesizing, and valuing
_____	<u>1</u>	4. "Hard to teach skills"--calculating, data analysis
_____	<u>1.5</u>	5. Appropriate use of technical level reference materials (e.g., abstracts)
_____	<u>1</u>	6. Writing, oral, and visual communication
_____	<u>1.5</u>	7. Development of proficiencies about heavy school workload impact
_____	<u>1</u>	8. Self-directed learning skills
_____	<u>1</u>	9. Reasoning proficiency in basic curriculum situations/areas
_____	<u>1</u>	10. Reflective thinking
_____	<u>1</u>	11. Convergent and divergent thinking skills
_____	<u>1</u>	12. Library and research skills
_____	<u>1.5</u>	13. High level metacognitive processing skills
_____	<u>1</u>	14. High level writing skills
_____	<u>1.5</u>	15. Time management skills
_____	<u>1</u>	16. Study skills which consolidate the skills of scholarly inquiry
_____	<u>1</u>	17. Problem identification, problem definition, and problem analysis
_____	<u>1</u>	18. Reason-making skills
_____	<u>1</u>	19. Spatial, visual, verbal, and calculation skills

Teacher

_____SKILLS KNOWN BY STUDENTS

16. Creativity in non-classroom situations, not just verbal or written
17. Advanced skills in comprehension and memory and articulation
18. Thought skills
19. Creative skills
20. Ability to "take preparation" to turn abilities into curriculum activity and create preparation

KNOWLEDGE KNOWN BY TEACHERS

21. General ability to recognize and/or recognize material
22. General ability to recognize or recall information that has been previously stored
23. In-depth knowledge, understanding, and insight into a discipline area
24. Future studies
25. Multi-media literacy (computer, video)
26. Understanding of regional, national, environmental problems, and advantages which occur at contemporary period of time
27. Awareness to help students' conventions and consider other options
28. Acquisition of a set of values through reflection, and interpretation
29. Appreciation of outstanding performance and products in all areas (interdisciplinary emphasis)
30. Higher level critical development

PERSONAL CHARACTERISTICS KNOWN BY STUDENTS

31. Task involvement, goal-directed behavior
32. Self-confidence, positive self-concept, and sense of physical well-being
33. Interpersonal communication characteristics
34. Emotional balance
35. Motivation which is intrinsic
36. Self-actualization
37. Dependence, concern, involvement in society's well-being
38. Ability to work in groups
39. Industriousness
40. Creativity
41. Self-empowering individual

QUESTION 111: WHAT SKILLS AND COMPETENCIES WILL BE TEACHERS OF GIFTED STUDENTS NEED IN ORDER TO PROVIDE APPROPRIATE AND EFFECTIVE INSTRUCTION FOR GIFTED SECONDARY STUDENTS?

RATINGS

- 1 = Always Needed, 2 = Highly Needed, 3 = Moderately Needed,
4 = Little Needed, 5 = Not Needed

1. Making learning an ongoing process
2. Motivating gifted students to gifted courses
3. Setting high standards of achievement
4. Setting high standards of behavior

Score
Rating Marked

SKILLS ATTAINED BY TEACHERS

_____	_____	1. Independent thinking skills
_____	_____	2. Skills in visualization
_____	_____	3. Time-management skills
_____	_____	4. Creativity
_____	_____	5. Skills in understanding and teaching effective development
_____	_____	10. Skills in encouraging teachers to document student growth
_____	_____	11. Being a mentor--helping students to acquire independent study skills
_____	_____	12. Teaching mentorships/peer-ship
_____	_____	13. Managing teaching and becoming a resource
_____	_____	14. Speaking, writing, and listening skills
_____	_____	15. Skills in leading small groups
_____	_____	16. Skills in teaching high level cognitive (critical and creative) thinking
_____	_____	17. Skills in appropriate evaluation
_____	_____	18. Skills in providing delivery systems that integrate the cognitive, affective, physical, and creative

KNOWLEDGE GAINED BY TEACHERS

_____	_____	19. Knowledge appropriate to the education of the gifted
_____	_____	20. Use of variety of appropriate instructional strategies
_____	_____	21. Intellectual capability
_____	_____	22. Content expertise
_____	_____	23. Knowledge of gifted and resources for the gifted
_____	_____	24. Professional literature
_____	_____	25. Knowledge of the psychology of the gifted
_____	_____	26. Up-to-date knowledge on techniques and information
_____	_____	27. Training in diagnostic and prescriptive techniques
_____	_____	28. Knowledge of basic curriculum areas
_____	_____	29. Content of material
_____	_____	30. Knowledge of development of the gifted
_____	_____	31. Knowledge of characteristics of the gifted
_____	_____	32. Student development (knowledge of how to teach it)
_____	_____	33. Self-awareness knowledge
_____	_____	34. Description of history of psychological foundations, teaching strategies, teaching delivery, and research

EXPERIENCE GAINED BY TEACHERS

_____	_____	35. Experience in the pursuit of development of one's own specialized talent
_____	_____	36. Broad range of skills and accomplishments--ability to integrate skills into research/gifted studies
_____	_____	37. Interviewer priority

PERSONAL CHARACTERISTICS ATTAINED BY TEACHERS

_____	_____	38. Basic personal skills to work with gifted students, colleagues
_____	_____	39. Ability to direct students
_____	_____	40. Openness
_____	_____	41. Ability to be flexible

Year	Rating	PERSONAL CHARACTERISTICS NOTED BY TEACHERS
_____	5	41. Sensitivity
_____	4.5	42. As fair, impartial
_____	4.5	44. Firm, not authoritarian
_____	4	45. Enjoy teaching
_____	4	46. Interpersonal communication skills
_____	4	47. Resourceful
_____	4	48. Emotionally balanced
_____	4	49. Ability to be a facilitator
_____	4	50. Self-knowledge, awareness
_____	4	51. Self-confidence
_____	4	52. Self-direction
_____	4	53. Task commitment
_____	4	54. Well-organized
_____	4	55. Sense of humor
_____	4	56. Tolerance
_____	4	57. Ability to relate to gifted students
_____	4	58. Ability to facilitate change
_____	4	59. Intrinsically motivated, curious, open-minded, love of challenge

Comments, Etc.

Comments: Please write the question number, the item number, and the reason your rating differs from the union. For example, "Q 24 - I think a structured curriculum is more appropriate than providing individual options." Please return this sheet and the questionnaire in the enclosed envelope.

Thank You Letter to Experts Participating in Reprint Study

The purpose of this letter is to express my appreciation to you for your assistance in the completion of my doctoral research project. I have received your completed Reprint Survey Form III, as well as that of your colleagues. As a result of your prompt attention to my survey, Phase I of my research is ready for analysis.

In addition to the national expert sample in which you participated (Phase II), the results of the Florida sample (Phase III) have been reviewed. Therefore, I hope to analyze data for both phases during the next few weeks. If all goes well for me, I should defend late this summer and receive the highest degree our profession has to offer.

Again, I thank you. Without your assistance and professional consideration I could not have completed a graduate effort in which I have worked earnestly for six years.

Sincerely,

Joseph C. Walderf
Doctoral Candidate

APPENDIX B
PAGE 11 CONTINUATION

Letter to Administrators

Two national experts in the field of gifted education have recently completed a field study to identify their perceptions of programming and curricula needs for gifted secondary students over the next decade. I am now seeking input from administrators in Florida who are or are planning to implement educational policy for gifted students. Since you are listed by the Florida Department of Education as a district level administrator in your county, I am requesting your assistance in completing this important research project.

A random sample of district level administrators has previously been asked to complete the national questionnaire and demographic information sheet. Each questionnaire and the personal information sheet is should take approximately 15 minutes to complete. Four questionnaires will be held in strict confidence. Neither your name nor the name of your county will be used in any part of the reporting of the results. Completion of the study will provide valuable information regarding the skills and competencies required of secondary gifted students and their teachers.

As I am presently employed as a teacher, I realize that my time of the year is busy for all school personnel, and time is a valuable commodity. I shall sincerely appreciate your cooperation of the time involved to complete the questionnaire as directed. A stamped, self-addressed envelope is enclosed for return to returning the questionnaire and demographic information sheet as soon as possible. If you have any questions, please feel free to contact me at (904) 392-0155.

Thank you for your assistance.

Sincerely,

Joseph C. Richard
District Coordinator
University of Florida

Additional sheet for "Background Information Sheet"

1. Sex Male
Female

2. Age 20-25 46-50
26-30 31-35
31-35 36-40
36-40 41-45
41-45 46-50

3. Race Black White Hispanic Other

4. Years Administrative Experience

1-2 3-10 11-20
3-4 11-12 13-20
5-6 13-14 over 21
7-8 15-16

5. Years Teaching Experience

1-2 3-10 11-20
3-4 11-12 13-20
5-6 13-14 over 21
7-8 15-16

6. Certification Areas

Administration Social Studies
English Business
Math Gifted Education
Science Foreign Languages
Health State Education
Art/Industrial Arts Physical Education
Other Exceptional Student Education

1. Hours Completed in Clinical Coursework:

_____ 0 _____ 6-8 _____ 11-13
 _____ 1-3 _____ 7-10 _____ over 15

2. Number of Students (0-11) Currently Enrolled in District:

_____ Fewer than 1,000 _____ 12,001-14,000
 _____ 1,001-4,000 _____ 14,001-16,000
 _____ 4,001-6,000 _____ 16,001-18,000
 _____ 6,001-8,000 _____ 18,001-20,000
 _____ 8,001-10,000 _____ over 20,000; please state _____
 _____ 10,001-12,000 _____

3. Number of Full-Time Residents in District:

_____ Fewer than 1,000 _____ 76,001-80,000
 _____ 1,001-10,000 _____ 80,001-90,000
 _____ 10,001-20,000 _____ 90,001-100,000
 _____ 20,001-30,000 _____ 100,001-120,000
 _____ 30,001-40,000 _____ 120,001-130,000
 _____ 40,001-50,000 _____ 130,001-150,000
 _____ 50,001-60,000 _____ over 150,000
 _____ 60,001-70,000 _____

4. Amount of District per Pupil Expenditure:

_____ \$200- 300 _____ 1,001-1,500 _____ 1,501-4,000
 _____ 3,001-4,000 _____ 4,001-5,000 _____ 5,001-8,000
 _____ 8,001-1,000 _____ 1,001-1,500 _____ 1,501-2,000

5. Number of National Merit Finalists in District for School Year 1994-95:

_____ none _____ 6-10 _____ 16-20
 _____ 1-5 _____ 11-15 _____ over 21

6. In your district, are monies allocated at the high school level specifically for use with "gifted" students (i.e., advanced, advanced placement, honors)?

_____ yes _____ no

7. If you responded yes to Question #6, from what funding sources are the monies allocated?

Administrative Questionnaire

DIRECTIONS: Below are three lists of answers received from 12 leaders in the field of gifted education. Above each list is a rating scale. Please fill in what you feel is the most appropriate rating number for each response. Please return the completed Questionnaire by April 22, 1986, in the attached envelope. Thank you.

QUESTION 1: WHAT SPECIFIC CURRICULUM AND PROGRAMS SHOULD BE DEVELOPED AND IMPLEMENTED DURING THE NEXT SEVEN TO TEN YEARS TO PROVIDE APPROPRIATE AND EFFECTIVE EDUCATIONAL OPPORTUNITIES FOR GIFTED SECONDARY STUDENTS?

RATING: 1 = Always Needed, 2 = Highly Needed, 3 = Modestly Needed
4 = Little Needed, 5 = Never Needed

RATING _____ **IDEAL CURRICULUM/PROGRAMS**

- _____ 1. Offer advanced placement courses
- _____ 2. Offer International Baccalaureate Program
- _____ 3. Offer honors courses
- _____ 4. Offer curriculum with multidisciplinary approach
- _____ 5. Offer "sound general education"-model disciplines contributing to a liberal education
- _____ 6. Provide standardized curriculum with stated student guidelines
- _____ 7. Provide individualized program structured after the Paden model for secondary education
- _____ 8. Offer foreign languages
- _____ 9. Provide product-(not outcome)-oriented curriculum
- _____ 10. Provide curriculum with homogeneous groupings
- _____ 11. Offer acceleration opportunities
- _____ 12. Provide curriculum leading to career preparation
- _____ 13. Provide courses designed to cater to the development of the total individual: cognitive, affective, psychomotor
- _____ 14. Offer curriculum stressing cultural heritage bequeathed by our nation through the 1980s
- _____ 15. Offer curriculum nurturing commitment to values of national
- _____ 16. Provide curriculum free, student-initiated, self-directional
- _____ 17. Offer curriculum stressing Secondary Trial Model and Talent Pool Classes
- _____ 18. Provide curriculum stressing elements leading to basic intellectual training
- _____ 19. Provide optional and modified curriculum preparing students in track with 15 core subjects
- _____ 20. Offer curriculum based on specific teaching units of instruction for each discipline taught at the secondary level
- _____ 21. Offer curriculum set up according to guidelines of ITG Commission on curriculum for the gifted
- _____ 22. Offer curriculum guided by RPP Four-A model (Discover, Describe, Develop, Disseminate)

ACTION

SPECIALIZED CONSULTATION

- ____ 18. Provide personal roles
- ____ 19. Provide computer-aided instruction
- ____ 20. Provide curriculum using metaphorical, metaphorical, and mathematical settings
- ____ 21. Offer leadership opportunities
- ____ 22. Offer programs stressing creative, critical thinking with both ideas and things
- ____ 23. Provide process (not content) emphasis
- ____ 24. Provide creative opportunities
- ____ 25. Offer programs stressing dialogue which is critical and analytical of ideas, belief, and all of Philip
- ____ 26. Provide studies of nature (movement of nature)
- ____ 27. Offer creative problem solving
- ____ 28. Provide curriculum stressing understanding and SOI applications
- ____ 29. Provide individual options that are not simply limited to selected placement, career studies
- ____ 30. Offer special activities of regular/curriculum which award high school credit
- ____ 31. Offer virtual special activities
- ____ 32. Provide curriculum stressing scientific (psychological) body activities including stress and contributing to overall health
- ____ 33. Provide opportunities for exploration with goals beyond the "known"
- ____ 34. Offer business research (change and becoming with emphasis on emergence, change, change, system evolution, "historical," and a study of the development of society)
- ____ 35. Provide for development of visual and performing arts
- ____ 36. Offer simulation game

OFF CAMPUS CONSULTATION

- ____ 37. Provide college and/or university coursework while in high school
- ____ 38. Provide mentorship
- ____ 39. Provide internships
- ____ 40. Provide enrichment centers or activities
- ____ 41. Provide varied "off campus experiences"
- ____ 42. Provide apprenticeships
- ____ 43. Offer multiple program options (field trips, extracurricular activities, non-traditional, seminars, summer and/or weekend courses)
- ____ 44. Offer support school options
- ____ 45. Offer residential components to foster and encourage socialization and general sense of intellectual/academic interest
- ____ 46. Provide chances to serve America in public service work (community focus)

SUPPORT SERVICES FOR CONSULTATIONS

- ____ 47. Provide use of special letters
- ____ 48. Offer materials including an affidavit (parental consent)
- ____ 49. Offer opportunities for self-education to determine appropriateness of relationships with gifted peers
- ____ 50. Provide learning the techniques of relaxation and meditation
- ____ 51. Provide programs to alleviate stress
- ____ 52. Provide student involvement opportunities in planning curriculum

RATING	SUPPORT SERVICES FOR COMMUNITY/PROBLEMS (Cont'd)
_____ 38.	Provide built-in conditions of flexibility and change
_____ 39.	Solve for administrative imperfections
_____ 40.	Solve for financial shortages
_____ 41.	Establish early assessment/identification
_____ 42.	Establish follow-up procedures for both student progress and program work

QUESTION 11: WHAT SKILLS AND COMPETENCIES WILL ELITE SECONDARY STUDENTS NEED IN ORDER TO MEET THE REQUIREMENTS OF THESE PROGRAMS?

RATING	1 = Almost Needed	5 = Fully Needed
_____ 1	2 = Highly Needed	3 = <u>Very</u> Needed
_____ 2	3 = <u>Extremely</u> Needed	

RATING	SKILLS NEEDED BY STUDENTS
_____ 1.	Critical, cognitive, and creative thinking
_____ 2.	Positive relating
_____ 3.	Sensing, appreciating, and valuing
_____ 4.	"You to learn better"—notetaking, data analysis
_____ 5.	Appropriate use of approved level reference materials (e.g., electronic)
_____ 6.	Written, oral, and visual communication
_____ 7.	Development of products which bring about audience impact
_____ 8.	Self-direction learning skills
_____ 9.	Documenting proficiency in basic curriculum applications/areas
_____ 10.	Reflective thinking
_____ 11.	Convergent and divergent thinking skills
_____ 12.	Library and research skills
_____ 13.	High level metacognitive processing skills
_____ 14.	High level writing skills
_____ 15.	Time management skills
_____ 16.	Basic skills which constitute the basis of scholarly inquiry
_____ 17.	Positive identification, problem definition, and problem inquiry
_____ 18.	Self-reliance
_____ 19.	Reasoning skills
_____ 20.	Spatial, visual, verbal, and calculation skills
_____ 21.	Complexity that is two-three dimensional, not just verbal or quantitative
_____ 22.	Advanced skills in comprehension and memory and evaluation
_____ 23.	Insight skills
_____ 24.	Critical skills
_____ 25.	Skills as "best preparation" to turn abilities into curriculum mastery and career preparation

KNOWLEDGE AREAS OF STUDENTS

_____ 26.	General ability to assimilate and/or recognize material
_____ 27.	General ability to recognize or recall information that has been previously stored
_____ 28.	In-depth knowledge, understanding, and insight in a discipline area
_____ 29.	Future studies
_____ 30.	Multi-media library (computer, video)
_____ 31.	Understanding of critical stages, environmental programs, and advantages which occur at contemporary period of time

ATTITUSKILLS NEEDED BY STUDENTS

13. Channeling to help remove alienation and consider other options
14. Articulation of a set of values through reflection, use, and justification
15. Appreciation of outstanding performance and products in all areas (interdisciplinary emphasis)
16. Higher level subject development

PERSONAL CHARACTERISTICS NEEDED BY STUDENTS

17. Task commitment, goal-directed behavior
18. Self-confidence, positive self-concept, and sense of physical well-being
19. Interpersonal communication characteristics
20. Personal balance
21. Motivation which is intrinsic
22. Self-actualization
23. Compassion, concern, involvement in society's well-being
24. Ability to work in groups
25. Involvement
26. Creativity
27. Self-learning abilities

QUESTION 171: WHAT ATTITU AND COMPETENCIES WILL THE TEACHERS OF GIFTED STUDENTS NEED IN ORDER TO PROVIDE APPROPRIATE AND EFFECTIVE INSTRUCTION FOR GIFTED SECONDARY STUDENTS?

SAMPLES

- | | |
|-----------------------------|--------------------------|
| 1 = <u>Always</u> Needed | 4 = <u>Often</u> Needed |
| 2 = <u>Sometimes</u> Needed | 5 = <u>Rarely</u> Needed |
| 3 = <u>Probably</u> Needed | |

ATTITUSKILLS NEEDED BY TEACHERS

1. Making learning an exciting process
2. Enlisting gifted students in gifted services
3. Setting high standards of achievement
4. Setting high standards of behavior
5. Independent thinking skills
6. Skills in communication
7. Team-building skills
8. Creativity
9. Skills in organizing and teaching effective development
10. Skills in communicating facts to document student growth
11. Being a mentor—helping students to acquire independent study skills
12. Learning management/management
13. Keeping teaching and learning a resource
14. Speaking, writing, and listening skills
15. Skills in leading small groups
16. Skills in teaching high level cognitive (critical and creative) thinking
17. Skills in appropriate evaluation
18. Skills in providing delivery systems that encompass the cognitive, affective, physical, and intuitive

ATTNKNOWLEDGE SKILLS BY TRACKS

10. Background appropriate to the education of the gifted
11. Use of variety of appropriate instructional strategies
12. Intellectual superiority
13. Content expertise
14. Knowledge of gifted and resources for the gifted
15. Professional literature
16. Knowledge of the psychology of the gifted
17. Up-to-date knowledge on techniques and information
18. Training in diagnostic and prescriptive techniques
19. Knowledge of basic curriculum areas
20. Content of material
21. Knowledge of development of the gifted
22. Knowledge of characteristics of the gifted
23. (Social) development (knowledge of how to work in)
24. Multi-media knowledge
25. Generalization of history of psychological foundations, teaching strategies, teaching delivery, and research

EXPERIENCE SKILLS BY TRACKS

26. Involvement in the process of development of one's own specialized talent
27. broad range of skills and accomplishments--ability to integrate skills into interdisciplinary studies
28. Innovation yearly

PERSONAL CHARACTERISTICS SKILLS BY TRACKS

29. Sound relations skills to work with gifted students, colleagues
30. Ability to direct students
31. Consistency
32. ability to be flexible
33. Sensitivity
34. Be fair, consistent
35. Firm, not strict
36. Enjoy teaching
37. interpersonal communication skills
38. Enthusiasm
39. Emotionally balanced
40. ability to be a facilitator
41. Self-knowledge, awareness
42. Self-protection
43. Self-direction
44. Task commitment
45. Well-organized
46. Sense of humor
47. Tolerance
48. ability to relate to gifted students
49. ability to facilitate change
50. Sociologically motivated, vision: open-minded, love of challenge

Follow-Up Letter to Administrators

A few weeks ago, I mailed you a survey questionnaire with a request that you complete it and return it to me. As of this date, I have not received your completed questionnaire. I am a teacher of advanced placement students and certainly recognize the difficulty any teacher has in finding time even minutes in a day. However, your participation in this project is essential in order for us to have an adequate number of responses from school personnel.

The purpose of this letter is to request again your participation in this very important research project.

This study is investigating the future programs for secondary advanced/advanced placement students and the skills and competencies of students and teachers who will participate in these programs. An attempt will be made to identify the school personnel who assist in the research.

I would appreciate your assistance in completing this questionnaire and returning it at your very earliest convenience. Please contact me at (360) 842-8716 if you have questions or need another copy of the survey.

Thank you in advance for your assistance with this study.

Sincerely,

Joseph C. Bolibar

Letter to Principals

The national experts in the field of gifted education have recently completed a Delphi study to identify those perceptions of programming and curricula needs for gifted secondary students over the next decade. I am now seeking comparative input from Florida's teachers of gifted students. Your school is listed by the Florida Department of Education as offering advanced or advanced placement courses.

I am requesting your assistance in completing this important research project. A random sample of teachers of gifted students will be asked to complete a questionnaire. It took regarding 15-20 minutes to complete covering questions on curricula, programming, skills and competencies of gifted secondary students, and attitudes and expectations required of teachers of gifted secondary students. Could you take a moment to provide us with the names of those teachers on your faculty who teach advanced or advanced placement courses so that I can contact them directly to recruit their assistance in completing this study?

Please indicate the names below of those teachers who may be contacted to participate in a study of gifted student education in Florida and return this letter in the enclosed self-addressed, stamped envelope. Thank you for your assistance.

Sincerely,

Joseph C. Winkler
Regional Coordinator

Teacher 1: _____

Teacher 2: _____

Teacher 3: _____

Letter to Teachers of Gifted Secondary Students

Dear Teacher:

The national experts in the field of gifted education have recently completed a Delphi study to identify those perceptions of programming and curricula needs for gifted secondary students over the next decade. I am now seeking input from Florida's teachers of gifted students. Your name was listed by your principal as a secondary teacher of advanced or advanced placement students in your school.

I am requesting your assistance in completing that important research project-- A random sample of teachers of gifted students like your school is being asked to complete the enclosed questionnaire and demographic sheet. Each questionnaire and the personal information sheet is should take approximately 15 minutes to complete. Your responses will be held in strict confidence. Neither your name nor the name of your school will be used in any part of the reporting of the results. Completion of the study will provide valuable information regarding the skills and competencies required of secondary gifted students and their teachers.

As I am presently employed as a teacher, I realize that any time of the year is busy for teachers, and time is a valuable commodity. I shall greatly appreciate your cooperation of the time involved to complete the questionnaire as directed. A stamped, self-addressed envelope is enclosed for use in returning the questionnaire and demographic information sheet as soon as possible. If you have any questions, please feel free to contact me at (864) 281-2070.

Thank you for your assistance.

Sincerely,

Joseph E. Valderf
 National Coordinator
 University of Florida

Teacher Biographic Information Sheet

1. Sex ☐ Male
☐ Female
2. Age ☐ 21-25 ☐ 46-50
☐ 26-30 ☐ 31-35
☐ 36-40 ☐ 41-45
☐ 46-50 ☐ 51-55
3. Race ☐ Black ☐ White ☐ Hispanic ☐ Other
4. Years Teaching Experience (advertised/contracted placement):
☐ 1-2 ☐ 11-15 ☐ 26-30
☐ 3-5 ☐ 16-20 ☐ 31-35
☐ 6-10 ☐ 21-25 ☐ 36-40
☐ 11-15 ☐ 41-45 ☐ 46-50
5. Teacher Certification Areas
☐ English ☐ Foreign Languages
☐ Math ☐ Music
☐ Science ☐ Social Sciences
☐ Social Studies ☐ Art
☐ Business ☐ Industrial Arts
☐ Physical Education ☐ Physical Education
☐ Other ☐ Exceptional Student Education
6. Reported Specialty (check)
☐ Generalist ☐ Specialist ☐ Other
☐ Specialist ☐ 24-3 ☐ Ph.D.

3. The number of hours completed in gifted education:

_____ 0	_____ 5-10
_____ 1-3	_____ 11-15
_____ 4-6	_____ over 15

4. The department in which the majority of your teaching duties is spent:

_____ English	_____ Foreign Languages
_____ Math	_____ Music
_____ Science	_____ Fine Arts
_____ Social Studies	_____ Art
_____ Business	_____ Industrial Arts
_____ Gifted Education	_____ Physical Education
_____ Other	_____ (exceptional) Student Education

5. The grades included in the school in which you teach:

_____ High School, grades 7-12
_____ High School, grades 8-12
_____ High School, grades 10-12

10. The total enrollment of the school in which you teach:

_____ 100-500	_____ 3,501-5,000
_____ 501-1,000	_____ 1,001-3,500
_____ 1,001-2,500	_____ over 3,500

12. Including yourself, the number of advanced/advanced placement teachers in your school:

_____ 1-3	_____ 4-10	_____ 11-15
_____ 3-5	_____ 11-13	_____ 17-23
_____ 6-8	_____ 13-16	_____ 18-25
_____ 7-9		

13. The number of advanced/advanced placement students whom you teach (only

_____ 0	_____ (number, please indicate)
_____ 10	_____
_____ 20	_____
_____ 30	_____

Teacher Questionnaire

DIRECTIONS: Below are three lists of subjects received from 25 teachers in the field of gifted education. Above each list is a rating scale. Please fill in what you feel is the most appropriate rating number for each response. Please return the completed Questionnaire by April 15, 1984, on the attached envelope. Thank you.

QUESTION 1. WHAT SPECIFIC CURRICULUM AND PROGRAMS SHOULD BE DEVELOPED AND IMPLEMENTED DURING THE NEXT DECADE TO PROVIDE APPROPRIATE AND EFFECTIVE EDUCATIONAL OPPORTUNITIES FOR GIFTED HIGH-ABILITY STUDENTS?

RATING: 1 = Strongly Needed, 2 = Highly Needed, 3 = Moderately Needed
4 = Slightly Needed, 5 = Not Needed

RATING **CURR. DEVELOPMENTS/IDEAS**

- _____ 1. Offer advanced placement courses
- _____ 2. Offer International Baccalaureate Program
- _____ 3. Offer honors courses
- _____ 4. Offer curriculum with multidisciplinary approach
- _____ 5. Offer "broad general education"—broad disciplines contributing to a liberal education
- _____ 6. Provide individualized curriculum with natural academic preferences
- _____ 7. Provide enrichment program structured after the Purden model for secondary education
- _____ 8. Offer foreign languages
- _____ 9. Provide project- (not course) oriented curriculum
- _____ 10. Provide curriculum with homogeneous groupings
- _____ 11. Offer acceleration opportunities
- _____ 12. Provide curriculum leading to career opportunities
- _____ 13. Provide courses designed to cater to the development of the total individual: cognitive, affective, psychomotor
- _____ 14. Offer curriculum stressing cultural heritage inherited by many societies through the ages
- _____ 15. Offer curriculum nurturing commitment to values of mankind
- _____ 16. Provide curriculum that, student-generated, not traditional
- _____ 17. Offer curriculum stressing Secondary Trial Model and Talent Pool classes
- _____ 18. Provide curriculum stressing elements leading to basic intellectual training
- _____ 19. Provide updated and modified curriculum preparing students to think well in any subject
- _____ 20. Offer curriculum based on specific teaching needs of instruction for each discipline taught at the secondary level
- _____ 21. Offer curriculum set up according to guidelines of LVI Commission or curriculum for the gifted
- _____ 22. Offer curriculum guided by SMP Four-S model (Success, Service, Develop, Disseminate)

LEARNINGAPPLICABLE COURSES/PROGRAMS

- _____ 12. Provide research experiences
- _____ 14. Provide computer-assisted instruction
- _____ 15. Provide curriculum using metaphorical, mechanical, and mathematical analogs
- _____ 16. Offer leadership opportunities
- _____ 17. Offer programs stressing creative, critical thinking with both ideas and things
- _____ 18. Provide projects (not automatic) emphasis
- _____ 19. Provide drawing opportunities
- _____ 20. Offer programs stressing dialogue which is critical and analytical of plans, belief, and all of reality
- _____ 21. Provide studies of reason (analysis of reason)
- _____ 22. Offer creative problem solving
- _____ 23. Provide curriculum stressing engineering and ACS applications
- _____ 24. Provide individual options that are not simply limited or advanced placement, honors courses
- _____ 25. Offer special sections of regular courses which exceed high school credit
- _____ 26. Offer varied special activities
- _____ 27. Provide instruction stressing positive (individual body exercises, reducing stress and contributing to overall health)
- _____ 28. Provide opportunities for exploration which goes beyond the "known"
- _____ 29. Offer future research (change and learning with emphasis on suggestion, analogy, utopian, species evolution, "historical," and a study of the contemporary situation)
- _____ 30. Provide the development of visual and performing arts
- _____ 31. Offer simulation games

OFF-CAMPUS COURSES/PROGRAMS

- _____ 42. Provide college and/or university coursework while in high school
- _____ 43. Provide internships
- _____ 44. Provide internships
- _____ 45. Provide extracurricular centers or activities
- _____ 46. Provide varied "off campus experiences"
- _____ 47. Provide apprenticeships
- _____ 48. Offer multiple program options (field trips, extracurricular activities, summer sessions, seminars, summer field work/study)
- _____ 49. Offer summer school options
- _____ 50. Offer residential responses to foster and encourage socialization and general areas of intellectual/scientific interests
- _____ 51. Provide changes to serve America in public service ways (community focus)

SUPPORT SERVICES FOR COURSES/PROGRAMS

- _____ 52. Provide use of special tutors
- _____ 53. Offer materials including an effective computer (software)
- _____ 54. Offer opportunities for collaboration to determine specializations of relationships with gifted peers
- _____ 55. Provide learning the techniques of teaching and evaluation
- _____ 56. Provide programs to alleviate stress
- _____ 57. Provide student development opportunities in planning curriculum

- NOTES SUPPORT SERVICES FOR CURRICULUM/PROGRAMS COORDINATOR
- _____ 52. Provide built-in conditions of flexibility and change
 - _____ 53. Incentive for administrative cooperation
 - _____ 54. Incentive for financial support
 - _____ 55. Initiate early assessment/identification
 - _____ 56. Initiate follow-up procedures for both student progress and program work

QUESTION 11 WHAT SKILLS ARE COMPETENCIES WILL GIFTED SECONDARY STUDENTS NEED IN ORDER TO MEET THE REQUIREMENTS OF THEIR PROGRAM?

- NOTES
- | | |
|----------------------|-------------------|
| 1 = Always Needed | 4 = seldom Needed |
| 2 = Usually Needed | 5 = Never Needed |
| 3 = Sometimes Needed | |

NOTES SKILLS WHICH IT STUDENTS

- _____ 1. Critical, logical, and creative thinking
- _____ 2. Problem solving
- _____ 3. Reasoning, appraising, and relating
- _____ 4. How to learn skills--watching, doing analysis
- _____ 5. Appropriate use of advanced level reference materials (e.g., abstracts)
- _____ 6. Written, oral, and visual communication
- _____ 7. Development of products which bring about audience impact
- _____ 8. Self-direction learning skills
- _____ 9. Demonstrating proficiency in basic curriculum activities/areas
- _____ 10. Reflexive thinking
- _____ 11. Convergent and divergent thinking skills
- _____ 12. Library and research skills
- _____ 13. High level categorization processing skills
- _____ 14. High level writing skills
- _____ 15. Time management skills
- _____ 16. Basic skills which constitute the skills of scholarly inquiry
- _____ 17. Problem identification, problem definition, and problem inquiry analysis
- _____ 18. Decision-making skills
- _____ 19. Symbolic, visual, verbal, and calculation skills
- _____ 20. Creativity that is two-three dimensional, not just verbal or quantitative
- _____ 21. Advanced skills in comprehension and memory and evaluation
- _____ 22. Insights skills
- _____ 23. Critical skills
- _____ 24. Skills in "mind preparation" to turn abilities into curriculum memory and current preparation

KNOWLEDGE WHICH IT ACQUIRES

- _____ 25. General ability to recognize and/or recognize material
- _____ 26. General ability to recognize or recall information that has been previously stored
- _____ 27. In-depth knowledge, understanding, and insights in a discipline area
- _____ 28. Future vision
- _____ 29. Multimedia literacy (computer, video)
- _____ 30. Understanding of critical stages, environmental pressures and advantages which occur as consequence period of time

STATUS

TEACHING SKILLS OF STUDENTS

- _____ 22. Counseling to help evaluate alternatives and consider other options
- _____ 23. Application of a set of values through reflection, not indoctrination
- _____ 24. Application of outstanding performance and products in all areas (interdisciplinary emphasis)
- _____ 25. Higher level critical development

PERSONAL CHARACTERISTICS SKILLS OF STUDENTS

- _____ 26. Task commitment, goal-directed behavior
- _____ 27. Self-confidence, positive self-concept, and sense of physical well-being
- _____ 28. Interpersonal communication characteristics
- _____ 29. Emotional balance
- _____ 30. Motivation which is intellectual
- _____ 31. Self-actualization
- _____ 32. Compassion, concern, involvement in society's well-being
- _____ 33. Ability to work in groups
- _____ 34. Individualism
- _____ 35. Creativity
- _____ 36. Self-starting abilities

QUESTION III: WHAT SKILLS AND COMPETENCIES WILL THE TEACHERS OF GIFTED STUDENTS NEED IN ORDER TO FURNISH APPROPRIATE AND EFFECTIVE INSTRUCTION FOR GIFTED SECONDARY STUDENTS?

STATUS

- | | |
|-----------------------------|-------------------------|
| 1 = <u>Always</u> Needed | 4 = <u>Being</u> Needed |
| 2 = <u>Often</u> Needed | 5 = <u>Never</u> Needed |
| 3 = <u>Sometimes</u> Needed | |

STATUS

SKILLS NEEDS OF TEACHERS

- _____ 1. Making learning an exciting process
- _____ 2. Motivating gifted students to gifted activities
- _____ 3. Setting high standards of achievement
- _____ 4. Setting high standards of behavior
- _____ 5. Independent thinking skills
- _____ 6. Skills in organization
- _____ 7. Reasoning skills
- _____ 8. Creativity
- _____ 9. Skills in counseling and involving effective development
- _____ 10. Skills in constructing tests to measure student growth
- _____ 11. Being a mentor--helping students to acquire independent study skills
- _____ 12. Locating opportunities/opportunities
- _____ 13. Shopping teaching and locating a resource
- _____ 14. Speaking, writing, and listening skills
- _____ 15. Skills in leading small groups
- _____ 16. Skills in teaching high level cognitive (critical) and creative thinking
- _____ 17. Skills in appropriate evaluation
- _____ 18. Skills in providing delivery systems that integrate the cognitive, affective, physical, and intuitive

ATTENDKNOWLEDGE SKILLS OF TEACHERS

18. Resources appropriate to the education of the gifted
19. Use of variety of appropriate instructional strategies
20. Intellectual supervisory
21. Classroom supervision
22. Knowledge of gifted and resources for the gifted
23. Professional literature
24. Knowledge of the psychology of the gifted
25. Up-to-date knowledge on techniques and information
26. Training in diagnostic and prescriptive techniques
27. Knowledge of basic curriculum areas
28. Content of material
29. Knowledge of development of the gifted
30. Knowledge of characteristics of the gifted
31. Student development (Knowledge of how to teach it)
32. Multi-media knowledge
33. Quantification of mastery of psychological foundations, teaching strategies, teaching delivery, and research

KNOWLEDGE SKILLS OF TEACHERS

34. Involvement in the pursuit of development of one's own specialized areas
35. Broad range of skills and accomplishments--ability to integrate skills into interdisciplinary studies
36. Inservice yearly

PERSONAL CHARACTERISTICS SKILLS OF TEACHERS

37. Human relations skills to work with gifted students, colleagues
38. Ability to direct students
39. Creativity
40. Ability to be flexible
41. Sensitivity
42. Be fair, impartial
43. Firm, not strict
44. Enjoy teaching
45. Interpersonal communication skills
46. Enthusiasm
47. Inherently balanced
48. Ability to be a facilitator
49. Self-knowledge, awareness
50. Self-confidence
51. Self-education
52. Task oriented
53. Self-regulated
54. Sense of humor
55. Tolerance
56. Ability to relate to gifted students
57. Ability to facilitate change
58. Intrinsically motivated, energetic, open-minded, love of challenge

Follow-Up Letter to Teachers

Dear Teacher,

A few weeks ago, I mailed you a survey-questionnaire with a request that you complete it and return it to me. As of this date, I have not received your completed questionnaire. I am a teacher of advanced placement students and certainly recognize the difficulty any teacher has in finding time within a school day. However, your participation in this project is essential in order for us to have an adequate number of responses from school personnel.

The purpose of this letter is to request again your participation in this very important research project.

This study is investigating the future programs for secondary advanced/placement students and the skills and competencies of students and teachers who will participate in these programs. No attempt will be made to identify the school personnel who assist us in the research.

I would immensely appreciate your assistance in completing this questionnaire and research project. Please contact me at (908) 282-5748 if you have any questions or need another copy of the survey.

Thank you in advance for your assistance with this study.

Sincerely,

Joseph C. Seider

BIOGRAPHICAL SKETCH

Joseph C. Schilder, Jr., was born July 17, 1941, in Detroit, Michigan, where he spent his first 11 years. His family moved to Florida in 1952. He earned his B.S. in Journalism with a major in public relations in 1963, his M.S. in rehabilitation counseling in 1967, and his Ed.S. in secondary education in 1975, all from the University of Florida in Gainesville. He has counseled both after-school patients from the South Florida State Mental Hospital in Hollywood, Florida, and emotionally disturbed adolescents in Palm Beach and Boca, Florida.

In 1971, Mr. Schilder returned to Gainesville, Florida. Since then he has taught self-involvement and resistance team classes for behavior disordered adolescents for five years at both the middle and secondary school levels. He also has taught several student and journalist classes for 11 years at the high school level for advanced placement students whose performance on college level exams and on national journalistic competitions have earned the highest national rankings and scholastic press awards. It has been during this period that his interest in curriculum development for gifted secondary students has expanded, and he has begun to perform professional consultations on program development of appropriate programs for the advanced secondary student. Since 1971, Mr. Schilder has conducted numerous workshops on special

education programming for students who are emotionally handicapped or academically gifted and talented. In 1981 he was an adjunct instructor at the University of Florida in the Department of Special Education, teaching classes in introductory special education, psychopathology of the behaviorally disordered adolescent, and psychometry.

In 1982, Mr. Binkoff began his full-time Ph.D. studies while also writing full-time for the Alachua County School Board. He currently teaches classes and serves as publications adviser at Gainesville's Holliston High School. Programming for gifted secondary students, teacher training and administration, and writing are Mr. Binkoff's professional interests.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Ernest E. Schuchman, Chairman
Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Robert F. Williams
Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Joseph E. Smith
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Gary L. Erickson
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


William F. Smith
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School, and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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